











YORKSHIRE PHILOSOPHICAL SOCIETY.

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ANNUAL REPORT

FOR

MCMXII.



*1912*



ANNUAL REPORT  
OF THE COUNCIL  
OF THE  
YORKSHIRE  
PHILOSOPHICAL SOCIETY

FOR  
MCMXII.

PRESENTED TO THE ANNUAL MEETING,  
FEBRUARY, 1913.



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1913.

TRUSTEES  
OF  
THE YORKSHIRE MUSEUM,  
APPOINTED BY ROYAL GRANT,

TEMPEST ANDERSON, M.D.

GEORGE A. AUDEN, M.D.

LORD DERAMORE.

CHAS. E. ELMHIRST.

SIR GEORGE GIBB, LL.B.

EDWIN GRAY, LL.M.



PATRONS  
OF THE  
**Yorkshire Philosophical Society.**

HIS MAJESTY THE KING.

HER MAJESTY THE QUEEN.

QUEEN ALEXANDRA.

# OFFICERS OF THE SOCIETY, 1913.

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TEMPEST ANDERSON, M.D., D.Sc.

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For one year in place of W. WILKINSON, decd.

J. S. GAYNER,

For two years in place of DR. HITCHCOCK.

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CHAS. E. ELMHIRST.

## CURATORS :

ARCHÆOLOGY - - - - -	<div style="display: inline-block; vertical-align: middle; font-size: 4em; line-height: 1;">{</div> <div style="display: inline-block; vertical-align: middle;"> T. BOYNTON, F.S.A.  Rev. J. SOLLOWAY, D.D.  G. BENSON.  W.A.EVELYN, M.A., M.D., Cantab.  W. HARVEY BROOK. </div>
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### *Vice-Presidents :*

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### *Secretaries :*

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S. H. SMITH.

CHAS. PROCTOR.

### *Secretaries :*

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H. E. JACKSON.

## KEEPER OF THE MUSEUM :

OXLEY GRABHAM, M.A., M.B.O.U.



REPORT OF THE COUNCIL  
OF THE  
YORKSHIRE PHILOSOPHICAL SOCIETY,  
FEBRUARY, 1913.

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THE Year 1912 will stand out in the History of our Society as one of the most important since its foundation. On the 6th of June, 1912, the magnificent new Lecture Theatre, so generously erected by the influence of our President, Dr. Tempest Anderson, and designed by Mr. Ridsdale Tate, was formally opened by Professor Bonny, F.R.S., D. Sc., Ex-President of the British Association. The Lecture Theatre, which has seating accommodation for 550, was filled to overflowing, and after the ceremony was completed a Portrait of our President by William Orpen, A.R.A., together with an Illuminated Address, designed and illustrated by Mr. Ridsdale Tate, was gracefully presented to Dr. Tempest Anderson by Mrs. Edwin Gray, on behalf of the subscribers, as a united public expression of the Society's grateful appreciation of his many acts of generosity, and of the invaluable and devoted services which he had so ungrudgingly given to the Society over a long course of years. In addition to the New Lecture Theatre, the old Theatre has been converted into a handsome reception room with a Gallery round three sides of it in which the Society's collections of Pottery and Glass are admirably exhibited. There has also been provided, under the East end of the New Theatre, a work room 39 ft. by 26, for Students, with a well lighted Bench, Library of works of reference, collections of type specimens for Geological study, and many

It is urgently requested that any discovery of Archæological interest in the neighbourhood may be brought to the notice of either the Chairman, Honorary Curators, or the Keeper of the Museum as early as possible.

The Keeper of the Museum will be pleased to give any information in his power, and may be seen daily, Museum engagements permitting.

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Postcards of many of the most important antiquities may be obtained in the Museum at Two Pence each.





other conveniences. The Vestibule to the St. Mary's Abbey Chapter House, which was formerly open and exposed to all the ravages of smoke, frost, and tempest, has been covered in, the floor drained and concreted, and converted into one of the most interesting portions of the Museum. Into this Chamber has been removed and suitably exhibited the unrivalled collection of mediæval stone work, which had hitherto been almost unnoticed in the lower part of the Hospitium. Here may now be seen a considerable portion of the beautiful Shrine of St. William, removed from York Minster at the Reformation, together with the Reredos in Derbyshire Marble with its delicately carved canopies and niches. In this connection your Council would quote from a Report by Mr. Edward S. Prior, of Chichester, who examined a portion of this collection in 1907 when the fragments were in the lower room of the Hospitium; he wrote:

" 12, WESTGATE,  
CHICHESTER,  
24th February, 1907.

What you have at St. Mary's is a most striking collection, and, as a series, unrivalled so far as I have seen in Cathedral and Abbey Museums. Your fragments shew what a workshop of the arts York was in the Middle Ages. I got so much pleasure from the view of your things, that I do not know that I have the right to criticise the arrangements for shewing them. But I must say it always seems to me, that our English work is badly treated when one looks at the spacious housing, and efficient exhibition, afforded to the fragments of other people's arts (to Zulu and Kanaka monstrosities for example), whereas the really beautiful bits of mediæval sculpture—the finest things in art that we English have produced—are as often as not, piled together like heaps of stone in a rockery, without classification or the least reverence or attempt to exhibit the beauties that remain. So at least it is at Winchester, Chichester, Fountains, &c. You at any rate at St. Mary's had some careful hand efficiently sorting and grouping your finds, with the result that you have got together some really extraordinary evidence, which quite open our eyes, as to the abilities of the York Sculptors. If only the things could be better spaced and in a better light.

It is, of course, the merest suggestion on my part, but seeing the value of what you have got piled up against the windows, would it not be possible to get them into the middle of the room and put together, so as to shew somewhat the connection of the fragments found (as it is done for example in the British Museum and at Oxford).

There are two special periods shown in your fragments of a flourishing sculpture at York, which should make you famous—one at the latter part of the 12th century and the other at the end of the 13th. There seems, as to the former, a grouping of your remains, as it were, round *two* compositions. One, no doubt, on a front of St. Mary's a Virgin and Child in a tympanum niche and the Apostles and Prophets flanking the doorway jambs. To show this work, the Virgin Torso should be set up in the centre and the Apostles, &c., grouped on

either hand, and the accompanying fragment of the same style put in connection. The figure remains are most remarkable, the like of which I do not know in England elsewhere. The other grouping was I daresay, in the Cathedral, and consisted of a 'Last Judgment.' Would it not be possible to get the Cathedral stone and your fragments together. The fourteenth century period is evidenced by those wonderful great heads of the Coronation of the Virgin, which was no doubt the principal sculpture of the re-built West Front of St. Mary's. There is nothing of this colossal sort left anywhere else in England, and all the pieces of it should be got together and, if possible, arranged. The other most valuable thing to piece up and shew, is that screen work with the arches. I believe a large part of this could be got into shape. We have done this lately for two screens at Chichester, and they look excellent without any restoration. Seeing how the Cathedral has suffered, and how the genuine evidences of the York work in the Chapter House have been touched up beyond recognition, it is of the utmost importance to have the real, actual, unspoilt style of the mediæval sculptors in evidence. The shams of these wretched restorers has taken away the credit of the ancient English arts and 'left them poor indeed.'

Yours faithfully,

EDWARD S. PRIOR."

The suggestions then made have now, to a large extent, been carried out by Mr. Harvey Brook, and the warmest thanks of the Council and Members of the Society are tendered to him for the loving care he has expended upon the removal and re-arrangement of these mediæval fragments. With reference to these fragments your Council would point out that many have been discovered on private rockeries in York Gardens and at the request of Mr. Harvey Brook have been restored by their owners. We would specially thank Messrs. Joseph Rowntree, G. Bellerby, The Misses Wilson, Mr. G.W. Milburn, T. Allen, Malcolm Spence, W. Dickson and A. B. Norwood for their generous co-operation in this respect, and appeal to any other York Citizens, who have similar fragments in their possession, to follow this excellent example.

During the past year further excavations on the site of the Abbey Choir have been made, under the supervision of Mr. Harvey Brook, who has most generously undertaken the greater part of the considerable expense incurred. Many very interesting features have been disclosed, and portions of four pillars were found and have been set up, in position, upon the South Arcade platform.

Mr. E. Ridsdale Tate has executed and presented to the Society a very beautiful Plan of St. Mary's Abbey which records the ground plan, as revealed by the excavations. It will be



hung in the Entrance to the Museum, and will be a great help to the Student and lover of Architecture. The best thanks of your Council, for this valuable gift, is here placed on record.

In August last year, The Royal Sanitary Institute held their Annual Congress at York, and the Museum Gardens, Museum, and Lecture Theatres were placed at their disposal and highly appreciated. The York and District Teachers' Association visited the Museum and Gardens in April last, and Guides were provided to explain the ruins and antiquities.

The Yorkshire Architectural and York Archæological Society have now become Tenants of our Society, and hold their Meetings, and house their Library, in the Museum.

With the completion of the Lecture Theatre your Council were able to re-inaugurate the Lecture Programme, and a list of the Lectures given will be found on page x. of this Report.

Thanks to the provision of the Reception Room, the evening Lectures are now followed by Tea and conversation, where the Members can meet the Lecturer and discuss the Lecture.

The Financial Statement shews that, owing to the heavy expenditure of removing the mediæval sculpture from the Hospitium to the Vestibule of the Chapter House, excavating and removing soil from the Choir, and other alterations and repairs, amounting to no less than £340, our expenditure has exceeded our income by £242. The work done is of a permanent character, and adds immensely to the interest and value of the collections, and it is hoped, that when this is realised, not only the Gate money but the number of our subscribers, may be materially increased. The Balance due to the Treasurer is £63 2s. 6d. which we shall endeavour to clear off in the coming year.

During the past year the Society has lost by death and resignation, 38 Members, 9 Lady Subscribers and 2 Associates, whilst 42 new subscribers have joined the Society. Your Council would specially record the loss sustained in the death of Mr. Francis Best Norcliffe, of Langton Hall, Malton, and Mr. William Wilkinson of this City. The former was, not only a keen sportsman, but an able naturalist and observer, and never lost an opportunity of securing and presenting to our Society any rare and abnormal specimens of bird, beast, or fish



which came under his notice. Mr. Norcliffe's knowledge of Natural History was not obtained from books, but direct from Nature, and as such was most interesting and reliable. Mr. William Wilkinson took a deep interest in the birds in the Museum Gardens, which he fed almost daily, and it was largely owing to his efforts that the new Aviary was built.

Your Council recommend Dr. C. K. Hitchcock as a new Vice-President and Mr. L. Foster, The Rev. W. Johnson, Mr. R. Tate, Mr. G. W. Lloyd, Mr. H. J. Wilkinson, and Dr. J. S. Gayner as new Members of Council, in the place of those retiring by rotation.

The Lectures delivered in the evenings were as follows :—

Monday, June 17th.—“Town Planning” (illustrated by Lantern Pictures).  
By The President, Tempest Anderson, D.Sc.

Thursday, June 27th.—“Explorations in the Himalaya” (illustrated by Lantern Lectures). By D. W. Freshfield, F.R.G.S.

Thursday, October 10th.—“York fifty years hence” (illustrated by Lantern Pictures). By The President, Tempest Anderson, D.Sc.

Thursday, October 17th.—“Road Traffic Facilities of Greater London” (illustrated by Lantern Pictures). By Colonel R. C. Hellard, C.B., R.E.

Thursday, October 24th.—“The Islands in the South Seas” (illustrated by Lantern Pictures). By Sir Everard im Thurn, K.C.M.G., C.B.

Thursday, November 7th.—“The Glastonbury Lake Village” (with Lantern illustrations). By Hon. Professor W. Boyd Dawkins, D.Sc., F.R.S., F.S.A.

Thursday, November 21st.—“Life in the Antarctic” (illustrated by Lantern Pictures). By R. N. Rudmose Brown, D.Sc.

Thursday, December 5th.—“The Romance of our English Minsters” (illustrated by Lantern Pictures). By the Rev. Jocelyn Perkins, M.A.

Thursday, December 19th.—“The Desert and Mountain of Sinai” (illustrated by Lantern Pictures). By J. J. Brigg.

The following Papers were read at the Monthly Meetings of the Society during 1912 :—

March 4th.—“Wildfowling on the Humber.” By Charles Procter.

April 1st.—“York examples of early Seals and Heraldry.” By G. Benson, A.R.I.B.A.

April 29th.—“Exploration in the Libyan Desert.” By the Rev. Ivor Gregg.

October 7th. Extra Meeting.—“Studies in Greek Sculptures.” By Miss Dorothy Johnson, B.A.

October 4th. “The Natives of the Phillipine Islands.” By L. F. Taylor.

November 11th.—“Natural History and Sport on the Goathland Moors.”  
By Oxley Grabham, M.A., M.B.O.U.

December 9th.—“The Old Glass in the Parish Churches of York.” By G. Benson, A.R.I.B.A.

ANTIQUITIES AND ARCHÆOLOGY.—During the year the mediæval sculpture stored in the lower room of the Hospitium have been removed to the room below the new Lecture Theatre, which has been formed into an Architectural Museum.

Excavations have been carried out by Mr. W. Harvey Brook and Mr. E. Ridsdale Tate at the Western end of the Choir of St. Mary's Abbey Church. Many sculptured stones have been found and placed in the Architectural Museum. The small carved objects, with tiles and fragments of glass, have been placed in a glazed case. The whole of the mediæval sculpture have been arranged in position by Messrs. Brook and Tate. The Minster Reredos and St. William's Shrine have been built up from fragments, and thereby rendered more intelligible to visitors. Fragments have been restored from rockeries, etc.; their owners having generously presented them to the Society. Particulars of the excavations and finds are given in another part of the Report, with a revised plan of St. Mary's Monastery, by Mr. E. Ridsdale Tate.

It is intended shortly to publish an illustrated catalogue of the sculpture in the Architectural Museum.

Taking the fullest advantage of the permission given to him by the Council of the Society to excavate the remainder of the Choir site, left after the excavation of 1901-2, Mr. W. Harvey Brook has thoroughly cleared out six bays of the Choir South Arcade—the central Norman Apse and the Apses of North Transept and North and East Cloister Alleys, at his own cost, which up to the present date is roughly about £170. These excavations have been productive of very interesting results, in addition to the fact that much old work has been found and set up in its original position, much done in the way of repairs, giving to the Choir a picturesque value as well as valuable archæological data. The South arcade platform has been found throughout, a great part rebuilt, the piers off-sets rebuilt, footings of pillars and four pillars set up so far as the parts found allowed, a cross wall built between the N.E. and S.E. piers of Tower, the N.E. and S.E. piers of Tower underpinned, added to and put in good repair. The North Transept Apses excavated, and the second Apse pier rebuilt, and 13th century pier placed in position, above the



Norman work, this was one of the piers of the arcade of the North Transept; and the second apse has been paved with cobbles and old pieces of ashlar, under this pavement Mr. Brook has re-interred the remains of a monk found in an oak coffin at the building of the new Lecture Theatre, and in digging the grave for this purpose, in the centre apse, found two more skeletons of the monks—also two additional burials were found, undisturbed, burials of presumably the fourteenth century—this apse Mr. Brook trusts will be looked upon as sacred to the memory of those good and faithful men to whom we are indebted for the glorious buildings the ruins of which are the proud possession of the Philosophical Society. Above these five graves he has placed two ledger stones found during the various excavations. Mr. Brook is now excavating the small portion of East and North Cloister Alleys and has found the old wall of good ashlar running East and West and North and South,—this he has raised to a height of several courses to act as a retaining wall for the great mound of earth adjoining the Museum Lecture Theatre. The cloister alleys will be excavated to the old floor levels—this work is at the present time proceeding.

Mr. Brook, during the removal of the ancient fragments from the old Hospitium lower hall, gave on 10th June, 1912, £10 11s. od. towards the cost of removal; and later on the 14th October, £20 os. od. towards the expenses of setting up the fragments of reredos, &c., under the new Lecture Theatre.

BOTANY.—The specimens in the Herbarium are in good condition. The additions during the year (1912) will be found on page xxxiv.

ENTOMOLOGY.—No additions of note have been made to this Section during the past year. The collections of the various orders have been kept in good condition.

GEOLOGY.—The collections bequeathed to the Society by the late Sir Charles Strickland have been moved to the Museum, and are at present housed in the Students' Room.



LIBRARY.—The Hon. Librarian reports that nothing of great importance has been done in this department during the past year. An attempt has been made to replace by order the chaos into which the recent building operations had thrown the Library. The room has been decorated and furnished, and it is hoped that these changes may cause a few more readers to attend.

METEOROLOGY.—*Statistics of Station* :—Longitude  $1^{\circ} 5' W.$ ; Latitude  $53^{\circ} 57' N.$ ; height above mean sea level, 56 feet. The unusual features of the weather of 1912, are an almost rainless April, and a summer of persistent rain which tried the temper of every class of the community. Yet gross results appear to have been good.

*Temperature* ranged in 1912 between  $12^{\circ}F.$  and  $83^{\circ}F.$ , the average mean temperature for the year being  $48.8^{\circ}F.$  The lowest temperature was recorded on February 4th, when the absolute minimum thermometer registered  $12^{\circ}F.$ , whilst the highest reading was observed on the 12th of July, the record being  $83^{\circ}F.$  Although the range,  $71^{\circ}$ , is the same as for 1911, the average is  $1.3^{\circ}$  lower, and the year must be regarded as one of low temperature throughout.

A *Mean Pressure* of 29.889 inches has been recorded as against 29.969 for 1911. March was lowest with 29.618 inches, and February next with 29.656 inches, and April next with 30.174 inches; September was highest with 30.191 inches. The extreme range of pressure was 1.81 inches, as compared with 2.006 inches in 1911 and 2.070 inches in 1910. The highest reading, 30.63 inches, was taken on October 4th, at 9 a.m., and the lowest, 28.82 inches, on June 6th, at 9 p.m.

*Rain or Snow* (0.005 inch or more) fell on 200 days, 17 days more than in 1911, our "dry" year, and 25 days fewer than in 1909; the total amount for the year being 33.01 inches, as against 25.06 inches for 1911 and 24.64 inches for 1910. This increase of 31.7 % for the year corresponds with the feelings of depression and despair with which our farmers regarded the so-called summer season. June, July, and August received 14.38 inches of this excessive fall, as compared with 6.36 in 1911. These were our wettest months, while April took only

·006 inch, rain falling on one day of the month, surely a record! The cumulative totals for the wettest months since 1841 are now October 193·21 inches, August 193·13 inches, July 177·69 inches. The heaviest fall occurred on May 22nd, when 1·15 inch fell, 1·14 inch following on June 22nd.

Observations of *Winds* show that during 1912 we have had “strong” winds on 46 days, and “calms” on 9. The chief winds have been S. (265), W. (252), N. (163), S.W. (113), E. (94), and N.W. (87).

We have had 30 days of “clear” sky, 148 of “overcast,” as against 122 for 1911 and 127 for 1910. We had 13 thunderstorms, 26 fogs, both much in excess of 1911. Snow fell on 12 days, as against 10 for 1911 and 15 for 1910.

*Bright Sunshine* was observed for 949 hours only, as against 1,411 hours for 1911, and 1,229 for 1910. This represents only 21% of what was possible, and a falling off of 11% on the year. Thus we had in 1912 only two-thirds of the sunshine of 1911.

MINERALOGY.—The Hon. Curator reports that the collections are in good order. The minerals in the glazed box under the mineral case were removed when the cabinet, so kindly presented by Dr. Anderson, was installed. They will shortly be placed in another part of the gallery.

NUMISMATICS.—The collection is in good order, and several additions have been made during the past year.

OBSERVATORY.—The Equatorial Telescope is in fair working condition and is always available for general observations of the planets and the more conspicuous stellar features and nebulae. The question of inaugurating an Astronomical Section of the Society is being discussed, but if the Observatory is to be brought into more frequent use than hitherto, it will be necessary to have fires in the Observatory stove only very rarely, so that all or nearly all the books that are now kept in the Observatory and for whose sake the fires are chiefly kept up, should be removed to the Museum if room can be found for them. Also observers have complained to me of the disagreeable smell from certain meat food for the birds which

seems to be kept in the lower part of the Observatory and gets offensive, especially in the summer time. Surely this could be kept in a meat safe outside the building.

If it were not for the above two drawbacks to the use of the Observatory, there is little doubt that it would be much more used than it is.

ORNITHOLOGY.—Several interesting specimens have been added during the past year, both to the collection of skins and stuffed birds, and also to the live birds in the aviaries.

ZOOLOGY.—The collections are all in good order, and additions are being constantly made to the fine series of skins of British Mammals possessed by the Society.

FIELD NATURALISTS' SECTION.—The past year has been a most successful one so far as the working of the Field Naturalists' Section is concerned; the Rambles and Excursions have been well attended. The excursion to Skipwith Common in conjunction with the Y.N.U., brought 23 members together, and a most enjoyable day was spent in visiting the Gullery, etc. On May 29th, 12 members assembled at Clifton Scope for an evening ramble. On June 12th, 15 members visited Askham Bogs, and 16 members took part in an excursion to the Black Woods, Langwith. 9 members attended the excursion to Scampston on August 14th. Scampston was reached about 2 o'clock, and the whole afternoon was spent in viewing the extensive Aviaries belonging to Mr. St. Quintin. The attendances at the Rambles and Excursions have been better than for years past; the average being 14. In 1911 the average was 11, and in 1910 only 9.

The meetings in the Museum have also been well attended, especially the Lantern Lectures, at some of which we have had large audiences; but a large number of those present were members of the Philosophical Society or the Photographic Section and not members of the Field Naturalists' Section, the subscription to which is 2/6 per year to members of the Philosophical Society and 4/- per year to ordinary members.

The Winter Session was opened with papers by Mr. Harry Dale and Mr. Charles Proctor. Mr. Dale dealt with some interesting "Insectivorous Birds," and Mr. Proctor with "The



Reptilia of the Vale of York." A lantern lecture on "Plant Life on land" was given by Dr. A. H. Burtt, which was followed by another lantern lecture by Mr. V. Zimmermann on "The Birds of Strensall Common." Mr. Harwood Brierley gave a paper on "The Crayfish in the Ure," and Mr. J. H. Evers one on "The Geranium Family." On November 27th, Mr. Riley Fortune lectured on "The Birds of the Dutch Meres and Polders." Mr. S. H. Smith read a long paper on "The Mammalia of the Vale of York," and Mr. Ingham gave a lecture on "Hepatics or Liverworts." Mr. Geo. Benson gave a paper on "Floral Decoration in Local Mediæval Art," while Mr. T. J. Martin spoke on "The Family Limnædiæ," illustrating his remarks with a very large series of Shells which Mr. Harry Sowden brought to the meeting. Mr. Geo. Machin dealt with "The Nesting of the Yorkshire Buntings," telling us of his observations of the Yellow, Common and Reed Buntings; several exhibits were shown dealing with Mr. Machin's paper. Mr. S. H. Smith showed the skin of a Common Bunting; Mr. Harry Dale a pair of Snow Buntings; and Mr. V. Zimmermann a large case of Eggs which exhibited the different types of the Yellow, Common and Reed Buntings; and Mr. Machin showed some fine clutches of the Yellow and Common Buntings. The best attended meeting was when Mr. Herbert Lazenby gave a lecture on his favourite "Photographs of Birds of York and district."

The Reports on local observations by the Sectional officers were read on March 12th. Mr. Lockwood dealt with Geology, Mr. V. G. F. Zimmermann with Ornithology, Mr. Martin with Conchology, Mr. A. Smith with Entomology, and Mr. Charles Proctor with Vertebrate Zoology. On March 26th, Mr. F. Lockwood read a very instructive paper on "The Geology of the Derwent Valley Railway." On April 23rd, Mr. E. W. Taylor told us what is known of "The Life History of some Freshwater Fish," and Mr. W. Ingham read a paper on "Variations in a Common Moss."

Our membership shows a slight increase. We commenced the year with 79 members, 11 gentlemen having joined during the year; 5 having resigned, 1 deceased, and 3 struck off, leaving 81 on the books,—an increase of 2 on the year.



During the past year we have lost the services of Mr. Robert Dutton, a Vice-President and one of the founders of this Society. Mr. Dutton was well-known to Yorkshire Naturalists, and his death is a great loss to this Society.

At the Annual Meeting the Secretary read a letter from Mr. H. J. Wilkinson (who had been approached to become President) in which that gentleman returned thanks for the great kindness which had been meted out to him during his 40 years' membership as Hon. Secretary, Treasurer, Vice-President, and President twice in 1901 and 1909, and he must ask them to allow him to retire from the position of Vice-President, as on account of private affairs he could not accept office again; the resignation was accepted with great regret.

Mr. Herbert Stansfield submitted the Balance Sheet, which showed that the total income amounted to £50 2s. 6d.; after paying all expenses there was a balance in the Bank of £33 2s. 9d., and cash in hand £3 11s. 0d.

The following Officers were elected for the ensuing year:—*President*, Mr. William Ingham; *Vice-Presidents*, Mr. Samuel Walker, Mr. S. H. Smith, Councillor A. Wilkinson, Mr. Chas. Proctor; *Committee*, Dr. Gayner, Mr. J. H. Evers, Mr. F. W. Lockwood, Mr. Geo. Machin, Mr. W. Bellerby, Mr. E. W. Taylor; *Hon. Secretary*, Mr. V. G. F. Zimmermann; *Assistant Secretary*, Mr. H. E. Jackson; *Hon. Treasurer*, Mr. H. Stansfield; *Librarian*, Mr. Blackburn; *Delegates to the Yorkshire Naturalists' Union*, Mr. Zimmermann and Mr. Proctor.

PHOTOGRAPHIC SECTION.—The number of members of the Section for some time past has remained stationary, namely about 30. During the latter part of the session ending Sept. 31st, 1912, there has been an increase of ten new members, bringing the total up to 40. We had hoped at the end of the session for a membership of 50, with the advantage now given. The early part of the session was opened with Mr. Brogden's lecture, "The Use of a Small Camera"; Wilfred Taylor, "Wild Life on a Yorkshire Moor"; T. W. Pottage, "From Cambridge to Cornwall, by road and rail." On July 17th, an Exhibition of Photography was held in the Hall of the Museum to inaugurate the first series of lectures in the New Lecture

Theatre, given by our President, Dr. Tempest Anderson. Over 250 photographs were on exhibition of first-class order, in the evening a *Conversazione* was held, with an exhibition of lantern slides on the screen in the New Theatre by T. W. Pottage, "Studies in Flowers"; Oxley Grabham, M.A., "Yorkshire Village Life"; A. G. Welham, "A Mixed Collection." On Friday, July 19th, during the Exhibition, E. Wilfred Taylor, "The Camera in Birdland."

The Photographic Exhibition was visited by a large number of members of the Society and public; pronounced by the Press to be a most successful and instructive exhibition of photographs of high-class work. We take it that the members of the Yorkshire Philosophical Society will take a greater interest in the affairs of the Section, by inducing the younger members of their families to join us and greatly add to the further success and usefulness, especially as the President and Committee have decided that all Photographic Lantern Lectures should be open to all members of the Society.

Full particulars and terms of Membership, as well as other information desired, will be readily furnished by the Joint Secretaries.



METEOROLOGICAL STATION, YORK.—THE MUSEUM.

Longitude 1° 5' W., Latitude 53° 57' N. Height above Mean Sea Level 56 ft. Gravity Correction + .024 in.

Mean Pressure at 32° Fahrenheit.			Air Temperature.										Humidity.						Earth Temp.	
At M. S. Level		At Station Level.	Means of		Min. & Max. Com- bined.	Absolute Max. and Min.		Depn. of Wet Bulb.			Tension of Vapour.			Percentage.			At 1 ft.	At 4 ft.		
			Max.	Min.		Max.	Day.	Min.	Day.	9 a.m.	9 p.m.	Mean.	9 a.m.	9 p.m.	Mean.	9 a.m.	9 p.m.	Mean.		
ins.		ins.	°	°	°	°		°		°	°	°	in.	in.	in.	%	%	%	°	°
Jan.	29·926	29·876	41·9	33·7	37·8	54	1st	16	29th	0·9	0·9	0·9	·200	·204	·202	92	92	92	39·5	42·9
Feb.	29·656	29·597	46·0	35·5	40·8	60	28th	12	4th	1·0	1·4	1·2	·225	·223	·224	92	89	90·5	38·3	40·7
Mar.	29·618	29·560	50·6	39·2	44·9	59	25, 26	32	21, 23	2·4	2·2	2·3	·241	·238	·239	82	83	82·5	43·1	43·2
April	30·174	30·115	57·1	38·9	48·0	71	21st	28	12th	4·5	3·5	4·0	·241	·234	·237	70	76	73	47·0	45·6
May	29·979	29·921	61·7	45·1	53·4	74	11th	35	1st	4·4	3·3	3·85	·299	·299	·299	72	78	75	52·2	49·6
June	29·795	29·739	64·7	50·3	57·5	76	22nd	43	11th	3·4	2·8	3·1	·377	·357	·367	79	82	80·5	56·6	53·2
July	29·962	29·905	67·6	54·0	60·8	83	12th	47	9th	3·0	2·4	2·7	·431	·412	·421	82	84	83	60·7	57·0
Aug.	29·707	29·651	63·2	49·4	56·3	71	11th	40	3rd	2·7	2·3	2·5	·374	·351	·362	82	85	83·5	58·1	57·4
Sept.	30·191	30·133	59·2	45·9	52·6	67	13th	37	23rd	3·2	1·9	2·55	·322	·312	·317	79	87	83	54·5	55·2
Oct.	29·900	29·842	54·8	39·7	47·3	63	14, 28	30	4th	1·9	1·5	1·7	·265	·265	·265	87	88	87·5	49·0	51·8
Nov.	29·946	29·887	48·5	38·4	43·5	56	6, 7, 8,	23	30th	1·7	1·9	1·8	·232	·232	·232	87	85	86	44·8	48·2
Dec.	29·800	29·741	48·0	37·5	42·8	57	14th	21	1st	1·5	1·5	1·5	·231	·245	·238	89	88	88·5	41·2	44·6
Year	29·899	29·831	55·3	42·3	48·8	83	Jul. 12th	12	Feb. 4th	2·6	2·1	2·35	·287	·281	·284	83	85	84	48·8	49·1



STATION, YORK.—THE MUSEUM.

Heights above Ground :—Barometer, 3 feet ; Thermometers, 4 feet ; Rain-gauge, 1 foot.

Amount of Cloud.				Rainfall.			Weather, No. of Days of										Wind, No. of Observations of									
9 a.m.		9 p.m.		Mean		Total.	Max.	Day.	Rain.	Snow.	Hail.	Thunder	Clear	Over-	Fog.	Gale.	Calm.	Strong (Wind 4-7)	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
				ins.		ins.	ins.																			
1912.	Jan.	7.2	6.7	6.95	3.52	0.53	6th	23	4	0	0	0	3	17	5	0	4	2	15	2	11	10	19	5	22	5
	Feb.	8.4	6.1	7.25	1.19	0.19	8th	18	2	0	0	0	0	12	4	0	3	2	6	7	11	5	34	7	9	5
	Mar.	7.5	6.4	6.95	2.92	0.62	14th	20	1	1	0	0	1	13	1	0	0	8	3	2	4	6	21	18	33	6
	April	5.4	3.8	4.1	0.06	0.06	9th	1	0	1	0	0	7	4	1	1	0	7	25	5	10	5	10	6	24	5
	May	7.8	7.9	7.85	2.85	1.15	22nd	14	0	0	1	1	0	17	0	0	0	2	14	6	16	5	13	6	27	6
	June	7.7	7.2	7.45	6.08	1.14	22nd	25	0	0	7	0	0	15	0	0	0	2	6	3	10	8	24	8	22	9
	July	8.0	7.4	7.7.	3.58	0.83	31st	16	0	0	3	1	20	2	2	0	1	5	28	6	9	5	24	8	6	6
	Aug.	7.5	7.5	7.5	4.72	0.71	26th	23	0	1	2	0	14	0	0	0	0	0	10	5	4	5	18	11	28	12
	Sept.	5.8	5.3	5.55	1.68	0.69	29th	7	0	0	0	0	5	8	1	0	0	3	12	9	15	6	5	3	24	16
	Oct.	5.8	4.4	5.1	2.15	0.81	26th	15	0	0	0	0	6	6	7	0	1	0	15	3	3	9	34	14	11	3
	Nov.	6.5	5.7	6.1	2.24	0.50	12th	18	4	0	0	0	3	10	1	0	0	5	27	0	0	0	17	9	25	12
	Dec.	6.4	7.0	6.7	2.02	0.47	11th	18	1	0	0	0	4	12	4	0	0	11	2	0	1	3	46	18	21	2
	Year	7.0	6.3	6.65	33.01	1.15	May 22	198	12	3	13	30	148	26	1	9	46	163	48	94	67	265	113	252	87	



RIVER HEIGHT RECORDS REGISTERED BY THE AUTOMATIC RECORDER  
AT THE GUILDHALL, YORK, 1912.

Date.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	Time.	Above or below S.L.	Time.	Above or below S.L.	Time.	Above or below S.L.	Time.	Above or below S.L.	Time.	Above or below S.L.	Time.	Above or below S.L.
1	1 a.m.	ft. in. 1 10	12 p.m.	ft. in. below 0	1 a.m.	ft. in. 1 3	12 p.m.	ft. in. 1 9	12 p.m.	ft. in. below 1	10 a.m.	ft. in. 0 1
2	"	1 4	"	below 0	12 p.m.	2 2	10 p.m.	0 8	6 p.m.	1 1	1 a.m.	0 2
3	"	1 0	6 p.m.	0 8	"	3 10	6 a.m.	0 3	12 p.m.	0 3	12 p.m.	above 1 6
4	"	0 10	2 p.m.	0 3	5 a.m.	4 3	5 p.m.	S.L.	noon	0 3	5 p.m.	0 0
5	12 p.m.	2 10	noon	0 6	12 p.m.	6 3	6 a.m.	S.L.	"	0 3	12 p.m.	5 8
6	6 a.m.	3 0	1 a.m.	0 3	1 a.m.	6 4	3 p.m.	0 6	"	0 3	8 a.m.	6 2
7	6 p.m.	3 6	"	0 1	2 a.m.	3 3	1 a.m.	0 3	"	0 3	1 a.m.	5 0
8	12 p.m.	2 5	12 p.m.	above 4	4 p.m.	0 7	noon	S.L.	"	0 3	12 p.m.	1 0
9	11 p.m.	1 10	6 p.m.	6 4	12 p.m.	1 2	9 a.m.	S.L.	"	0 3	9 p.m.	0 6
10	10 p.m.	4 2	12 p.m.	4 10	"	1 8	1 a.m.	0 2	"	0 3	12 p.m.	2 9
11	12 p.m.	6 5	"	2 10	"	1 2	noon	below 0	"	0 3	6 a.m.	3 2
12	2 p.m.	8 2	6 p.m.	1 9	"	0 6	"	0 2	"	0 3	12 p.m.	1 0
13	1 a.m.	7 4	12 p.m.	2 9	noon	0 5	"	0 3	"	0 6	"	1 0
14	"	6 3	"	2 0	"	0 6	"	0 4	"	0 5	"	0 11
15	"	4 9	"	1 1	12 p.m.	3 3	"	0 6	"	0 5	noon	0 10
16	"	4 0	6 p.m.	0 9	"	2 10	"	0 6	"	0 3	"	0 10
17	11 p.m.	7 9	noon	0 10	9 p.m.	1 11	"	0 7	"	0 3	2 p.m.	1 2
18	12 p.m.	4 8	"	0 11	12 p.m.	3 4	"	0 7	"	0 3	5 p.m.	0 8
19	9 p.m.	2 2	12 p.m.	1 2	"	1 8	"	0 8	"	0 4	2 p.m.	3 2
20	12 p.m.	3 3	"	2 3	2 p.m.	0 9	"	0 8	"	0 6	12 p.m.	0 10
21	"	5 2	noon	2 9	12 p.m.	1 6	"	0 9	3 a.m.	0 5	"	0 5
22	9 a.m.	5 6	12 p.m.	1 2	"	2 2	"	0 9	12 p.m.	S.L.	"	0 1
23	12 p.m.	2 2	"	2 3	noon	2 3	"	0 9	5 a.m.	0 2	noon	0 5
24	11 a.m.	1 4	"	1 4	3 p.m.	1 9	"	0 9	1 a.m.	above 1 8	6 p.m.	0 7
25	9 p.m.	2 5	"	0 7	noon	2 0	"	0 10	"	0 6	noon	0 7
26	"	2 5	8 p.m.	0 5	9 p.m.	2 6	"	0 1	"	0 3	2 p.m.	5 5
27	12 p.m.	1 5	12 p.m.	1 9	"	1 6	1 a.m.	1 1	noon	below 0 2	12 p.m.	5 5
28	"	0 9	3 p.m.	2 7	12 p.m.	1 8	12 p.m.	3 0	"	0 2	"	5 5
29	6 p.m.	0 6	12 p.m.	1 1	"	0 9	1 a.m.	2 6	"	0 2	"	5 5
30	"	0 5	"	2 3	"	1 9	noon	0 3	"	0 2	6 p.m.	1 4
31	12 p.m.	S.L.	"	2 0	"	2 0	"	3	5 p.m.	1 3	"	"

## RIVER HEIGHT RECORDS.—Continued.

Date	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	Time.	Above or below S.L.	Time.	Above or below S.L.	Time.	Above or below S.L.	Time.	Above or below S.L.	Time.	Above or below S.L.	Time.	Above or below S.L.
1	1 a.m.	ft. in. 1 4	12 p.m.	ft. in. 5 10	10 p.m.	ft. in. 1 1	noon	ft. in. 2 3	12 p.m.	ft. in. 1 2	1 a.m.	ft. in. 0 7
2	12 p.m.	1 3	noon	6 9	11 a.m.	1 9	} Machine not working.	}	9 a.m.	0 7	noon	0 2
3	9 p.m.	3 0	1 a.m.	4 10	1 a.m.	1 7			1 a.m.	0 11	"	S.L.
4	12 p.m.	1 2	12 p.m.	8 3	12 p.m.	4 6			"	0 6	12 p.m.	4 9
5	11 a.m.	0 8	noon	8 0	"	3 6	noon	0 2	12 p.m.	2 3	4 a.m.	4 11
6	10 p.m.	0 6	12 p.m.	5 8	"	1 1	"	0 2	"	1 4	1 a.m.	2 10
7	6 p.m.	0 3	3 p.m.	4 9	8 p.m.	0 3	"	S.L.	"	0 7	} Machine not working.	
8	noon	0 3	8 a.m.	5 8	11 p.m.	0 4	"	S.L.	6 p.m.	0 3		
9	6 p.m.	S.L.	1 a.m.	4 3	3 p.m.	2 3	"	S.L.	11 p.m.	1 5		
10	noon	S.L.	12 p.m.	0 5	12 p.m.	0 9	"	below 0 1	1 a.m.	1 2	noon	0 3
11	"	S.L.	1 a.m.	0 5	"	0 2	"	0 1	6 p.m.	2 2	10 p.m.	0 5
12	9 p.m.	S.L.	12 p.m.	0 1	"	0 5	"	0 1	"	1 0	6 p.m.	4 3
13	1 a.m.	S.L.	noon	S.L.	noon	0 5	"	0 1	12 p.m.	2 1	1 p.m.	2 2
14	1 a.m.	0 11	1 a.m.	S.L.	"	0 3	"	0 1	10 p.m.	3 0	12 p.m.	8 10
15	12 p.m.	below 0 2	noon	below 0 4	"	0 3	1 a.m.	S.L.	12 p.m.	1 6	noon	9 6
16	10 p.m.	0 4	6 p.m.	1 4	"	0 3	"	above 0 3	11 a.m.	1 0	1 a.m.	9 1
17	noon	0 4	noon	0 4	"	0 4	12 p.m.	0 9	1 a.m.	1 2	"	4 10
18	"	0 4	6 a.m.	0 9	"	0 3	6 a.m.	0 10	"	0 8	12 p.m.	2 11
19	"	0 4	12 p.m.	0 6	"	0 3	12 p.m.	1 0	noon	0 4	11 p.m.	1 11
20	"	0 4	6 p.m.	0 9	"	0 3	9 p.m.	0 7	1 a.m.	0 4	noon	4 3
21	River Drawn off.	0 4	6 a.m.	above 0 8	"	0 1	3 p.m.	2 6	noon	0 1	12 p.m.	1 2
22	"		noon	0 4	"	0 3	1 a.m.	1 11	1 a.m.	0 1	4 p.m.	0 8
23	"		"	0 3	"	0 3	"	0 11	noon	S.L.	12 p.m.	0 9
24	"		9 p.m.	3 0	"	0 2	"	0 6	12 p.m.	1 5	noon	0 7
25	"		12 p.m.	2 0	"	0 2	6 p.m.	0 2	"	2 1	12 p.m.	1 4
26	"		"	3 6	"	0 2	12 p.m.	8 7	9 a.m.	5 10	"	1 6
27	"		noon	6 5	"	0 2	6 a.m.	8 10	noon	7 3	11 p.m.	3 0
28	River Drawn off.		1 a.m.	5 2	"	0 1	1 a.m.	7 4	1 a.m.	5 5	12 p.m.	6 4
29	noon	above 0 6	12 p.m.	4 0	"	0 1	2 a.m.	5 3	"	1 5	3 a.m.	6 10
30	12 p.m.	2 9	7 a.m.	4 11	"	0 1	11 p.m.	3 6	"	1 1	1 a.m.	3 8
31	10 p.m.	0 1	12 p.m.	1 10	12 p.m.	0 11	12 p.m.	2 6	"	1 0	1 a.m.	3 8

HOUSE FLOODS FROM RETURNS TO THE CITY SURVEYOR.  
COMPARATIVE TABLE, 1912.

Date.	Nidd at Pateley Bridge.		Ure at Middleham Bridge.		Swale at Richmond.	
	Hour.	Height.	Hour.	Height.	Hour.	Height.
		ft. in.		ft. in.		ft. in.
Jan. 8			8 a.m.	4 0		
" 14			3 p.m.	4 0		
" 16			6 p.m.	6 0		
Feb. 8			10 a.m.	5 0	4-30 a.m.	3 0
" 9			8 a.m.	6 6		
" 27			8 a.m.	3 0		
Mar. 2			9 a.m.	4 0		
" 30			9 a.m.	4 0		
May 23			9 a.m.	4 6		
June 5			5 p.m.	5 6		
" 12					9 a.m.	2 6
" 18			9-30 p.m.	4 6		
" 19			8 a.m.	2 0		
" 27					1-30 p.m.	3 6
July 28			4 p.m.	2 6		
" 29			8 a.m.	7 6		
Aug. 23			5 p.m.	4 6		
" 25					2 p.m.	3 6
" 29			9 a.m.	4 6		
Sep. 4			8 a.m.	8 6		
" 30					2 p.m.	2 0
Oct. 27			8 a.m.	9 6		
" 29					3-30 p.m.	1 9
Nov. 5			8 a.m.	4 0		
" 25			4 p.m.	8 0	3 p.m.	3 0
" 26			5 p.m.	8 6	3-30 p.m.	5 0
Dec. 4			9 a.m.	5 6		
" 13			6 p.m.	7 6	7 p.m.	3 6
" 14			8 a.m.	10 0	11 a.m.	4 0
" 28			10 a.m.	4 0		



YORK—THE MUSEUM.  
 BAROMETER AT 32° AND M.S.L.

1912.	Highest Barometer.	Lowest Barometer.
January	30.39 { 1st, 9 a.m. 2nd, 9 a.m.	28.82 6th, 9 p.m.
February	30.13 14th, 9 p.m.	29.08 8th, 9 p.m.
March	30.27 12th, 9 a.m.	28.91 21st 9 p.m.
April	30.56 23rd, 9 a.m.	29.45 8th, 9 a.m. & 9 p.m.
May	30.39 25th, 9 a.m.	29.39 15th, 9 p.m.
June	30.06 27th, 9 a.m.	29.40 4th, 9 a.m.
July	30.36 4th, 9 p.m.	29.38 31st, 9 p.m.
August	30.08 31st, 9 a.m.	29.32 { 7th, 9 a.m. 26th, 9 a.m.
September	30.55 19th, 9 a.m.	29.26 30th, 9 p.m.
October	30.63 4th, 9 a.m.	29.17 29th, 9 a.m.
November	30.42 3rd, 9 p.m.	29.07 26th, 9 p.m.
December	30.35 3rd, 9 a.m.	29.38 26th, 9 p.m.
Year	30.63 Oct. 4th, 9 a.m.	28.82 Jan. 6th, 9 p.m.

YORK (BOOTHAM)—SUNSHINE VALUES.

Month.	Total Hours.	Percentages.	
	1912.	1912.	1911.
January	25	10	12
February	42	15	18
March	70	19	23
April	193	46	24
May	141	29	35
June	118	23	39
July	82	16	50
August	69	15	38
September	102	27	50
October	70	22	25
November	31	12	25
December	6	2	10
Year	949	21	32

THE TREASURER'S ACCOUNT IN CONNECTION WITH THE FUND FOUNDED BY THE LATE  
WM. REED, ESQ., FOR SPECIFIC PURPOSES.

Dr.	INCOME.	EXPENDITURE.	Cr. £ s. d.
Interest on £600 York Corporation 3 % Redeemable Stock, less Income Tax ...	... 16 19 0	Books and Binding ...	... 18 4 0
Interest on £50 placed on Deposit with the London Joint Stock Bank Ltd. ...	... 1 5 0		
	<u>£18 4 0</u>		<u>£18 4 0</u>

BALANCE SHEET.

	£ s. d.		£ s. d.
Amount of Fund on 30th December, 1912 ...	... 687 19 2	Amount invested in York Corporation 3 % Redeemable Stock ...	... 600 0 0
		Amount placed on Deposit with the London Joint Stock Bank Ltd. ...	... 50 0 0
		Cash at Bankers in General Account ...	... 37 19 2
	<u>£687 19 2</u>		<u>£687 19 2</u>

Examined and found correct,  
 PHILIP L. NEWMAN.  
 EDWIN GRAY, Hon. Treasurer.

## PHILOSOPHICAL SOCIETY FOR YEAR ENDING 31ST DEC., 1912.

Previous  
Year.

## EXPENDITURE.

Cr.

							£	s.	d.	£	s.	d.
	Crown Rent	...	...	...	..	...				1	0	0
	Corporation Rent	...	...	...	...	...				18	19	7
	<i>Rates and Taxes :</i>											
	Property Tax and City Rates	...	...	...	...	...	46	15	8			
	Waterworks Company's Rate	...	...	...	...	...	9	6	3			
	Gardeners' Licenses	...	...	...	...	...	2	5	0			
	Receipt and Cheque Books Stamping	...	...	...	...	...	2	2	0			
64										60	8	11
	<i>Insurance :</i>											
	Fire Premium	...	...	...	...	...	8	8	0			
	Employers' Liability Premium	...	...	...	...	...	2	7	0			
	National Health Insurance Contributions	...	...	...	...	...	1	16	0			
9										12	11	0
	Telephone Rent and Calls	...	...	...	...	...				8	16	0
	<i>Salaries and Wages :</i>											
	Museums	...	...	...	...	...	360	14	0			
	Lodge and Gardens	...	...	...	...	...	323	10	11			
640										684	4	11
132	*Yorkshire Insurance Company Ltd., Annuity	...	...	...	...	...				132	6	7
	<i>General Additions, Repairs, and Expenses :</i>											
	Museums, ordinary repairs, additions and expenses	...	...	...	...	...	49	10	3			
	Gardens ditto ditto ditto	...	...	...	...	...	46	19	10			
	Estate ditto ditto ditto	...	...	...	...	...	74	7	3			
	Cost of removing and arranging Mediæval Stones transferred from Hospitium to Vestibule of Chapter House, altering Footpath adjoining Lecture Theatre, removing soil from excavations, and forming Terrace in front of Aviary	...	...	...	...	...	169	2	8			
236										340	0	0
4	Library—Books and Binding	...	...	...	...	...				15	11	9
26	Lectures	...	...	...	...	...				28	6	11
12	Printing and Stationery	...	...	...	...	...				6	15	3
	Printing Communications to Members and Postage of	...	...	...	...	...						
3	same	...	...	...	...	...				8	0	2
40	Printing Reports and Postage thereof	...	...	...	...	...				52	14	0
	<i>Gas, Coal, Coke, and Electricity :</i>											
	Gas	...	...	...	...	...	17	11	4			
	Coal and Coke and Cartage	...	...	...	...	...	80	4	10			
	Electricity	...	...	...	...	...	10	17	7			
74										108	13	9
13	Antiquities, Coins and Pottery	...	...	...	...	...				16	1	10
7	Sundry Postages	...	...	...	...	...				7	13	11
1	Sundries	...	...	...	...	...				0	13	7
										£1502	18	2
	Balance due to the Treasurer, 31st December, 1912	...								63	2	6
										£63	2	6

\* Annuity payable until October, 1914, inclusive, created to repay an advance of £3500 made by The Yorkshire Insurance Co. Ltd.

Principal repaid	...	...	...	3246	11	2
„ outstanding	...	...	...	253	8	10
				£3500	0	0



## THE TREASURER IN ACCOUNT WITH THE YORKSHIRE

<i>Previous Year.</i>	<i>Dr.</i>	<i>INCOME.</i>						<i>£</i>	<i>s.</i>	<i>d.</i>	<i>£</i>	<i>s.</i>	<i>d.</i>
	<i>Subscriptions :</i>												
	Town Members	...	...	...	...	...	...	606	0	0			
	Country Members	...	...	...	...	...	...	10	0	0			
	Lady Subscribers	...	...	...	...	...	...	68	0	0			
	Associates	...	...	...	...	...	...	15	0	0			
	Arrears received	...	...	...	...	...	...	16	0	0			
813	Keys of Gates...	...	...	...	...	..	...	64	5	0			
											779	5	0
	<i>Donation :</i>												
	W. Harvey Brook, Esq.	...	...	...	...	...	...				31	11	0
	<i>Rents :</i>												
	Major Allenby—St. Mary's Lodge	...	...	...	...	...	...	65	0	0			
	Mr. Hill—Marygate Baths...	...	...	...	...	...	...	40	0	0			
	York Amateur Rowing Club	...	...	...	...	...	...	5	0	0			
	York Waterworks Co.—Shed	...	...	...	...	...	...	15	0	0			
	Do. Light	...	...	...	...	...	...	0	1	0			
	Corporation of York—Lease of Exhibition Land	...	...	...	...	...	...	2	0	0			
	Yorkshire School for the Blind—Light	...	...	...	...	...	...	0	1	0			
	Post Office—Wayleaves	...	...	...	...	...	...	1	2	0			
138	Letting of Rooms for Lectures and Meetings	...	...	...	...	...	...	32	0	0			
											160	4	0
	Whitsuntide Admission Fees	...	...	...	...	...	...	12	2	5			
	Less: Attendants	...	...	...	...	3	6	0					
	Fixing of Barricades	...	...	...	...	5	19	6					
3								9	5	6			
											2	16	11
4	Sale of Catalogues, Plans and Photographs	...	...	...	...	...	...				3	8	0
	Sale of Books, etc.	...	...	...	...	...	...				1	0	0
6	Bank Interest	...	...	...	...	...	...				6	0	0
234	Gate Money	...	...	...	...	...	...				236	18	4
	Interest on £918 8s. 9d. India 3% Stock, less Income Tax	...	...	...	...	...	...				25	19	0
	Hire of Tent and Tables	...	...	...	...	...	...	3	12	0			
6	Less: Cost of Repairs, Carriage, Fixing, etc.	...	...	...	...	...	...	0	12	0			
											3	0	0
	Meteorological Department—Grant from Corporation of York (2 years)	...	...	...	...	...	...				10	0	0
											1260	2	3
	Excess of Expenditure over Income	...	...	...	...	...	...				242	15	11
											1502	18	2
	Excess of Expenditure over Income, 1912	...	...	...	...	...	...				242	15	11
	Balance in hands of the Treasurer, 30th December, 1911	...	...	...	...	...	...				179	13	5
											£63	2	6

Examined and found correct,

PHILIP L. NEWMAN,

EDWIN GRAY,

*Hon. Treasurer.*

## NEW MEMBERS. &amp;c., ELECTED, 1912.

Bowen, J., 35, Queen Anne's Road.  
 Brett, John, 13, The Avenue.  
 Carey, Major W. S., 1, Bootham Terrace.  
 Cation, R. T., 20, Bootham Terrace.  
 Dell, J. A., M.Sc., 13, Sycamore Terrace.  
 Ferguson, M. du B., 37, St. Mary's.  
 Hore, Rev. E. S., St. Peter's Grove.  
 Huffam, Mrs., 8, St. Mary's.  
 Kirby, George, The Exhibition.  
 Lace, Verney, 27, St. Mary's.  
 Lawton, Wm. L., Meadow Croft, Malton Road.  
 Lea, Percy, 15, Sycamore Place.  
 Liversidge, J. S., 31, Coney Street.  
 Masterman, H. E., 96, Petergate.  
 Mayne, F. G., 4, St. George's Place.  
 Micklethwaite, Dr. G. W., 57, Bootham.  
 Morris, Col., 5, Grosvenor Terrace.  
 Ottley, Lieut.-Col. G. F., 82, Bootham.  
 Pinder, Edwin, Stonegate.  
 Pritt, Miss G. A. Lonsdale, 1, Bootham Terrace.  
 Rieveley, J. W., 17, Colliergate.  
 St. John, Louis F., 70, Marygate.  
 Sampson, J. J. Geoffrey, 28, Queen Anne's Road.  
 Singleton, Miss K., Queen Anne's Road.  
 Smith, Miss, 34, Grosvenor Terrace.  
 Walker, R., 55, Stonegate.  
 Wilkinson, Col. G. Eason, Dringhouses Manor.  
 Workman, Mrs., 24, Park Place.

## LADY SUBSCRIBERS.

Black, Mrs., 7, Carlton Terrace.  
 Coates, Mrs., 18, Bootham Terrace.  
 Demaine, Mrs., 4, The Avenue.  
 Foster, Miss, 7, Chapter House Street.

Goodall, Miss C., 72, Marygate.  
 Horne, Miss I, 40, St. Olave's Road.  
 Langdale, Miss, 37, Bootham.  
 Pearson, Mrs. R., Club Chambers.  
 Raven, Miss, 3, Queen Anne's Road.  
 Richardson, Miss H., 31, White Cross Road.  
 Washington, Miss, 25, Parliament Street.

## ASSOCIATES.

Bushell, Bernhard, Mount House,  
 Phillips, H. A., Bootham Terrace.  
 Woodbridge, G. H., St. Leonard's Club.

## DEATHS.

### MEMBERS.

Colburn, Miss, Bootham.  
 Evans, Alfred, Sycamore Terrace.  
 Jefferson, Capt. M. Dunnington, Thicket Priory.  
 Lamb, Geo., Colliergate.  
 Milligan, Mrs., St. Peter's Grove.  
 Norcliffe, F. B., Langton Hall.  
 Wharton, Rt. Hon. J. L., Bramham.  
 Wilkinson, Wm., Bootham Terrace.  
 Wood, T. F., Nunthorpe.

### LADY SUBSCRIBERS.

Hopkinson, Miss, 14, St. Marys.  
 Ward, Miss, Petergate.

## RESIGNATIONS.

29 Members.  
 7 Lady Subscribers.  
 2 Associates.



## DONATIONS TO MUSEUM AND LIBRARY.

## LIBRARY.

BOOKS PRESENTED.	DONOR.
The Quarterly Journal of the Geological Society of London, Vol. lxxviii., 1912.	The Society.
Transactions of the Royal Society of Edinburgh, Vol. xlviii., Parts 1, 2. Proceedings, Vol. xxxii. Parts 1, 2, 3, 4.	The Society.
Philosophical Transactions of the Royal Society. Series A., Vol. ccxi. Proceedings, Series A., Vol. lxxxvi., No. A, 587, 588, 589, 590, 591: Vol. lxxxvii., Nos. 592, 593, 594, 595, 596, 597, 598, 599. Series B., Vol. lxxxiv., No. B, 575; Vol. lxxxv., Nos. B, 576, 577, 578, 579, 580, 581, 582, 583, 584.	The Rev. Prof. T. G. Bonney.
Catalogue of Lepidoptera Phalænæ, Vol. xi. and plates. Mycetozoa, Lister, 2nd Edition, Catalogue of Chiroptera, Vol. i. General Index to Hand List of Birds, Vols. i. to v. Revision of Ichneumonidæ, Part 1, Morley.	The Trustees of the British Museum.
Annual Report of the United States Geological Survey, No. 32. Mineral Resources of the United States, Part 1, Metals; Part 2, Non-metals. Bulletin, Nos. 448, 466, 470, 484, 485, 491, 492, 493, 494, 496, 497, 498, 499, 500, 504, 505, 506, 507, 508, 509, 511, 512, 516, 517. Geology and Ore deposits of Butte District, Montana. Professional Paper, No. 69. The Earthquakes at Yakestat Bay, Alaska. Water Supply Papers, Nos. 271, 278, 279, 280, 282, 285, 286, 287, 288.	The United States Survey.

- Bulletins, Nos. 47 and 52, of the Bureau of American Ethnology, and Annual Report of the United States National Museum, 1911. } The Institution.
- Memoirs of the Geological Survey of India, Vol. xxxvi., Part 3. Records, Vol. xli., Parts 1, 2, 3, 4; Vol. xlii., Part 2, and Index to Vol. xxxix. } The Survey.
- Transactions of the Zoological Society of London, Vol. xx., Part 2. Proceedings, Parts 2, 3, 4, 1912, and Index, 1901—1910. } The Society.
- Bulletin of the American Geographical Society, Vol. xliv., Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12. } The Society.
- Transactions of the Linnean Society of London (Zoology), Vol. xi., Parts 8, 9, 10; Vol. xiv., Parts 2, 3, 4; Vol. xv.; Parts 1, 2. Botany, Vol. vii., Parts 16, 17, 18; Vol. xx., Part 1. The Journal (Zoology), Vol. xxxii., Nos. 213, 214. Botany, Vol. xl., Nos. 277, 278; Vol. xli., Nos. 279, 280, 281, and Proceedings. Waterton's Wanderings in South America. The Moorlands of North Eastern Yorkshire, by Frank Elgee. } Tempest Anderson, D.Sc.
- Report of the British Association for the Advancement of Science, Portsmouth, 1911. } The Association.
- Catalogue of Periodicals in the University College, London. } The Librarian.
- Memoirs and Proceedings of the Manchester Literary and Philosophical Society, Vol. lvi, Parts 2, 3. } The Society.
- Proceedings of the Geologists Association, Vol. xxiii., Nos. 1, 2, 3, 4, 5. } The Association.

- Proceedings of the Royal Institution of  
Great Britain, Vol. xix., Part 3. } The Institution.
- The Journal of the Manchester Geo-  
graphical Society, Vol. xxvii., Parts  
1, 2. } The Society.
- Transactions of the Leicester Literary  
and Philosophical Society, Vol. xvi.,  
1912. } The Society.
- Warrington's Roman Remains, by  
Thomas May, F.S.A., Scotland. } The Author.
- Memoirs of the Russian Geological  
Society, Parts 58, 59, 60, 61, 62, 63,  
64, 65, 69, 75, 78, 81. Bulletin, Vol.  
xxx., Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10;  
Vol. xxxi., Nos. 12. } The Society.
- Proceedings of the Russian Mineralogi-  
cal Society, Vol. xxv., 1912. } The Society.
- Memoirs of the Russian Naturalists'  
Society, Vol. xxii., Nos. 2, 3, 4. } The Society.
- Bergen Museums, Aarbog and Aars-  
beretning, 1911-12. } The Institution.
- Bergen Museums, Skifter, Vestlandske,  
Graver fra Jernalderen, by Haakon  
Schetelig. } The Author.
- Nova Acta Abh. der Kaiserl, Leop. Carol,  
Deutsehen Akademie der Naturfors-  
cher, Band xciv., No. 2. } The Society.
- 22nd Report of the Missouri Botanical  
Garden, 1911. } The Committee.
- Proceedings and Transactions of the  
Nova Scotian Institute of Science,  
Vol. xii., Part 3; Vol. xiii., Part 1, 2. } The Institution.
- Det Kongelige Norske Videnskabers  
Selskabs Skrifter, for 1910-12. } The Society.



- Mitteilungen der Gesellschaft für Erdkunde zu Leipzig, 1911. } The Institution.
- The University of Toronto Studies, Nos. 10, 11, 37, 38, 39, 40, 94. } The University.
- Annals of the New York Academy of Science, Vol. xxi. 2 parts; Vol. xxii. 4 parts. } The Academy.
- Catalogue of Loan Collections of Norwich, Silver Plate, Paintings, and Prints; Report of the Castle Museum Committee, 1911, and 4th Annual Report of Proceedings of the Norwich Museum Association. } The Society.
- Journal of the Northants Natural History Society and Field Club, Vol. xvi., Nos. 1, 2, 5, 6, 7, 8. } The Society.
- Bulletin of the New York Public Library for 1912. } The Library.
- Transactions of the Edinburgh Geological Society, Vol. x., Part 1. } The Society.
- The Journal of the Glasgow Naturalists, Vol. iv., Nos. 1, 2. } The Society.
- The Journal of the Torquay Natural History Society, Vol. i., No. 4. } The Society.
- Annual Report of the Medical Officer of Health for the year 1911, York. } Dr. E. M. Smith.
- Hull Museum Publications, Nos. 6, 79, 83, 85, 86, 87, 88, 89. } T. Sheppard, F.G.S.
- Geological Survey of Canada. Reports of Progress, Nos. 2, 3. } The Survey.
- Proceedings and Transactions of the Croydon Natural History and Scientific Society, 1911-12. } The Society.
- Tufts College Studies, Vol. iii., No. 2. } The College.

- The 7th Annual Report of the Meteorological Committee. A Barometer Manual for the use of Seamen, and Weekly Weather Reports for 1912. } The Meteorological Society.
- Annual Report of Brighton Museums, Art Gallery, and Public Library, 1911 } The Director.
- The Glasgow Naturalist, Vol. iv., Nos. 3 and 4. } The Society.
- Report of the Bristol Museum and Art Gallery. } The Director.
- Manchester Museum Publications, No. 73. } The Museum.
- 5th Annual Report of the National Museum of Wales. } The Museum.
- Calendar of the University of Leeds, 1912-13. } The University.
- Calendar of the Armstrong College, 1912-13. } The College.

## ZOOLOGY AND COMPARATIVE ANATOMY.

- Castings of Peregrine Falcon. Dr. Heatherly.
- A live Formosa Pheasant, Elliot's Pheasant, and a variety of the Long-tailed Field Mouse. } Mr. W. H. St. Quintin

## GEOLOGY.

- A large collection of fossils chiefly from the Oolitic formations near Malton, and the Lias beds at Whitby. } The Executors of the late Sir C. Strickland.

## BOTANY.

- A collection of Egyptian Plants. Miss Walker.

## ANTIQUITIES.

Roman Bronze Coins, English Silver Coins, a very fine (almost perfect) Bowl of Samian Ware found in York, a Roman Gold Style found in Lendal, a pair of Ear-rings, and Foreign Coin.	Dr. Tempest Anderson.
A collection of Indian Coins.	Miss Barstow.
A Roman Silver Coin of Julian the Apostate.	Mr. T. W. Simpson.
Part of a Roman Tesselated Pavement found on St. Maurice's Road.	Messrs. James Bowman & Son.
Cave's Printing Press.	Mr. R. Hawkeswell.
An old Glass Lead Smoother and an Old Pot.	Mr. Paget.
Three pieces of the Ancient Reredos of York Minster and Head of a Niche.	Mr. G. Bellerby.
One piece of back of Niche of the Reredos of the Old High Altar, of the Minster.	Mrs. Dickson.
One fine piece of the wing of the Reredos, and one small fragment of Statuette from the Reredos High Altar, York Minster.	Mr. G. W. Milburn.
Two large Bases from Domestic Buildings of St. Mary's Abbey.	Miss & Mr. M. Spence
One beautiful piece of the String Course of the Reredos of York Minster, two pieces of the Door Jamb of the Entrance of the Chapter House, St. Mary's Abbey, and three pieces of Norman Arch Stones from the Abbey.	The Misses Wilson.
One large Jamb of Niche of Ancient Reredos of High Altar, York Minster.	Mr. J. Porteus.



Doorway of one of the Pardose Screens  
of the Minster, one piece of Reredos  
and many Caps, Bases, &c., 33 stones  
in all. } Mr. Joseph Rowntree

One fine piece, spandrel of Arch of  
the Shrine of St. William from the  
Minster, one arcade head of Cloister  
of St. Mary's Abbey, fine piece of  
Carved Stone found in excavations  
for St. Olave's New Chancel. } Mr. W. Harvey Brook

One piece of Reredos of High Altar of  
the Minster. } Mr. T. Allen.

One Carved Stone from the entrance  
to the Chapter House, and other  
Carved Stones from the Abbey. } Dr. Hughes.

Several Carved Stones from St. Mary's  
Abbey. } Dr. Jalland.

### PLANS, DRAWINGS, ETC.

One Print framed of the Excavations of  
1822, showing the Chapter House  
Vestibule. } Mr. W. Harvey Brook

One framed drawing, Sir Gilbert Scott's  
restored view of the Entrance of  
Chapter House and Vestibule of St.  
Mary's Abbey, and large Ground  
Plan of the Abbey on large scale,  
Drawing of South Elevation of St.  
Mary's Abbey. } Mr. E. Ridsdale Tate

# DEVELOPMENT OF EDUCATION,

By DR. BONNEY.





# DEVELOPMENT OF EDUCATION.

BY DR. BONNEY.

*At the opening of Lecture Theatre.*

---

I am indeed glad to come here to-day and inaugurate this important addition to the buildings of the Yorkshire Philosophical Society, of which I am proud to be an honorary member, and my pleasure is the greater because it is the gift of my old friend, Dr. Tempest Anderson, who has thus expressed in a permanent form his patriotic regard for the city of his birth and his zeal for science, to which, by his researches and photographic studies among the volcanoes of the world, he has made such important contributions.

This handsome lecture theatre, with the spacious rooms beneath, so conveniently arranged for work and museum purposes, is one more sign of how greatly the national feeling in regard to education has changed during my lifetime. When I was a boy, the studies of the best schools and the Universities were almost restricted to classics and mathematics, excellent instruments, no doubt, for mental development, but limited in their scope. In the lower secondary and primary schools, as we should now call them, the teaching was narrow, unsystematic, more or less dependent on the individual master, and thus was commonly bad. What was even worse, many, perhaps most, people not only took no interest in education, but seemed to regard it as a necessary nuisance. Now it may be sometimes in danger of suffering from the multitude of friends, who are more zealous than wise, but at any rate there is one great gain that we are beginning to realize, as a people, that we can find in Nature's books not only an indispensable instrument for training the mental faculties, but also, even in our own land, inexhaustible sources of interest. The study of mathematics or logic teaches us to reason correctly, that of languages brings us into communion with the thoughts of our fellow-men in the present and in the past, but that of the natural sciences trains

us in accurate observation and sound induction. Not only so, but the study of nature brightens every phase and aspect of the daily life. The environment of a large city, if it developes some very valuable qualities, has its attendant dangers. It may cramp the interest, limit the horizon and fetter the mind. The warehouses and the factories, the streets and the quays, are no doubt in one sense of the phrase 'sermons in stones,' but the woods and the fields, the fells and the glens, the rivers and the sea, can teach us lessons even more important ; lessons which can often drive away anxieties and fill the mind with thoughts and memories to brighten the hours of labour, in the office, the shop, or the factory. To take an interest in something, quite separate from the routine of our lives, is one of the best of tonics.

But while 'he who runs may read' some pages of Nature's vast encyclopædia, only those whose faculties have been trained, can decipher others. For this purpose your Society was founded ninety years ago and these sumptuous additions have now been made to its buildings, of which I can hardly say better than that they are worthy of your city and it is worthy of them ; because York is one of four which are prominent among the towns of England for the interest of their history and the charm of their architecture—the others of course, being Chester, Oxford and Cambridge. I will not attempt to place these four in order of merit, but will remember the old saying about comparisons and bracket them together. Yorkshire also, that great fraction of our own country, cannot be surpassed by any other like division in the manifold attractions of its scenery and its relics of olden time.

A broad river valley seems, at first sight, to offer little to engage the attention of geologists, but the valley of the Ouse, in the very precincts of York, retains relics of the Glacial Epoch, on the significance of which they are not yet agreed, while the botanist (as that admirable guide book told us of the British Association six years ago), can find ample employment within a few miles from your Minster. No place in Britain is richer than York in memories of the past ; the history of your city is almost an epitome of the history of England. My friend, Professor Boyd Dawkins, can tell you better than I, of the times about which written annals are silent, so I will take up the story where it begins to be graven in stone, with the coming of the Romans.

More than a century elapsed after Cæsar's galleys had been beached on the shores of Kent, before their troops had crossed the



Ouse, and Agricola, about the 80th year of our era, pushed his conquests so far north as to construct a chain of forts between the Forth and the Clyde in order to obtain the advantage of a scientific frontier. This demanded an administrative centre, and for that purpose no place was so obviously fitted as Eboracum, now York. Hither came Hadrian on his way to check the northern barbarians more effectively by that marvellous wall, with its strongholds and garrison fortresses, which once extended from the Tyne to the Solway. In the days that followed, your predecessors must many a time have watched the Roman troops as they marched through Bootham Bar (as we now call it) northward to chastise the ever aggressive Caledonians, and once, in the days of Antoninus Pius to re-establish the frontier defences of Agricola. On the events of the next hundred years I must not linger, though the peace of your shire was too often disturbed by Saxon and Frisian pirates or by pretenders to empire. The coming of Constantius Chlorus with his son Constantine brought quieter times, and Eboracum witnessed the last hours of the one and the accession to the purple of the other.

But the great Empire of Rome was doomed, and your shire, no less than the rest of our land, shared in the disasters of its decline and fall. The Ouse, in later days a source of prosperity, offered an easy access for pirates—Saxons and Angles, Frisians and Danes,—to plunder, burn and slaughter. There was also war at home, for the days of the Heptarchy illustrate the drawbacks of duodecimo nationalities. But this shire and your city, then gradually transforming its name to York, were again beginning to play an important part in the history of Britain. The fair-haired boys in the slave market at Rome, who stirred so deeply the tender heart of Gregory the Great, came from Yorkshire, which thus may claim to have initiated the mission of Augustine. The baptism of Ethelbert at Canterbury marks the restoration of Christianity to Southern England, but that was brought back to the North by the baptism of Edwin in the year 627, of which, as you well know, York was the scene. Though the log built church, hastily erected for that occasion, has long since disappeared, your Minster covers a site what will ever be memorable in English history. But peace was not yet to be; for the convert was to fall by the sword of his foes, and the bishop to wander for many years as an exile from his diocese. For a time there was strife within the Church between the Roman and the Celtic use, and for still longer—almost two



centuries—with Saxon and Dane, for York and for Yorkshire. You will not forget Harold's victory at Stamford Bridge, so soon to be blighted by his defeat and death on the slopes of Senlac. Fire and sword ravaged city and shire for some years to come, and from these calamities its recovery was slow; but to detail the events which both have witnessed from the beginning of the eleventh to the middle of the seventeenth century would be, as it has been well said, to write the history, not only of Northern England but also, in a great degree, of the whole Kingdom.

One or two events stand out conspicuously from the rest. That frightful outbreak of Anti-Semitism, the memories of which still linger about your castle; the marriages of Kings in your Minster; the useless rising against Henry IV., so fatal to your Archbishop; the wars of the Roses, which gave for a season that grim ornament to Micklegate Bar; the desperate strife on Marston Moor, when the troopers of Prince Rupert became as stubble to the swords of Cromwell's brigade and the royalist cause in the North perished at a blow. With that struggle and the Restoration a more peaceful era began; the sound of war was heard no more in the gates of York, and its citizens prospered quietly, if uneventfully, till the construction of railways inaugurated an era of more rapid increase.

But all around us are the visible signs, no less than the mental pictures of these eighteen centuries. In the multangular tower with the adjacent wall, and under Bootham Bar, to mention only places in our vicinity, we may see the courses of stone, laid by Roman masons. Your Minster, as I have said, carries our memories back to the baptism of Edwin, nearly thirteen centuries ago. Those mouldering fragments of wall, half hidden in its crypt very probably are records of his later days and the first permanent church erected on that site. Though the basilica of Archbishop Albert seems to have disappeared, that crypt also preserves the work of Thomas of Bayeux, the first Norman Archbishop, and of Roger, Becket's opponent, about a century later. The earlier half of the thirteenth century saw the building of your transepts; nave and chapter-house were begun towards its end, the former not being completed till near the middle of the fourteenth. The choir was rebuilt before that closed, and the towers rose during the next one. Since the re-consecration of the cathedral in 1472, notwithstanding the destruction of so much of its ancient woodwork in the two disastrous fires of the last century, it has towered above your city, a chronicle graven in stone, "worthy to be noted" (to quote Æneas

Sylvius) "throughout the world for its size and excellence." Of the many memorials which it contains, of its stained glass, its monuments, and the valuables of its Record Room and Treasury, I need not speak to those who know.

To the city wall, only less complete than that of Chester, to its gates and bars, in which it is without a rival, I need not again refer, and in regard to its churches and examples of domestic architecture from the Middle Ages onward, I will only say that in no other town in England (and I speak from a rather extensive knowledge) is the picturesqueness of the streets so often remarkable. But on this spot, in the gardens of the Yorkshire Philosophical Society, we are surrounded by memories of the past. Of the Roman walls I have already spoken; the stronghold of the Danish chiefs has indeed disappeared, but their memory is perpetuated in the dedication of the neighbouring church. Close at hand are the ruins, beautiful in their decay, of St. Mary's Abbey, once the glory of Yorkshire. You can now, thanks to careful exhumation, study much which was formerly hid from sight, and can even trace out the apse of that earlier church, which Abbot Stephen built in the days of William Rufus. The ruined vestibule to its chapter-house is enclosed beneath the spacious lecture theatre, in which we are assembled, and will in future be protected, with many choice fragments of those ancient buildings, from the corrosive touch of the elements. This disused site of an institution which in its day helped to lift the minds of men above the baser ends of life, could hardly be better employed than in the service of learning and the advancement of true civilization, while the collections, so amply illustrating each aspect of your shire and the annals of its inhabitants, shew that science and history meet here on common ground and seek to learn lessons for the future from the study of the past.

And this brings me back to the object which has gathered us here. This lecture theatre, Dr. Tempest Anderson's noble gift, is, of course, intended for direct instruction, but its adjuncts, the excellent work-room and other chambers below, are important aids to the display and development of the collections in your Museum. Those collections are worthy of a great city and have been wisely gathered. It would be hopeless, and it would be useless, for a local museum to vie with those national collections which have their proper place in the metropolis, but a *local* museum should frankly accept and carry out to the utmost of its powers,



the meaning of that epithet. We should hope to find within its walls just such a representation of other parts of our land and of the rest of the earth as is necessary for purposes of education, but we should most of all expect its collections to be rich—nay, unrivalled—in memorials of ancient York, of the Yorkshire of your forefathers, its natural history and its geology. That is what we do find within and around these walls. We cannot approach this building without being reminded of an age when the climate of Britain may have been even less genial than that of Spitzbergen, and ice in some way, not fully ascertained, transported blocks of granite from Shap Fell across the Pennine watershed to the valley of the Ouse and the Yorkshire coast. Within these walls the minerals, rocks and fossils, the fauna and flora, of Yorkshire are represented by collections of what you may well be proud; thanks to the work begun by John Phillips and continued by highly qualified curators and most liberal benefactors. Your Museum is also rich in memorials of man in the ages of stone and bronze and iron, and for those of the Roman, in life and in death, we have but to visit the ancient guest hall at the lower margin of these grounds. Within your boundaries we can find illustrations of almost every chapter in the composite history of our nation,—of Briton and Saxon, of Dane and Norman, of the labours and the life of our forefathers.

But I must cease lest I weary you with a tale which to most of you, no doubt, is already familiar. It remains only for me to declare these buildings open, to congratulate the members of the Yorkshire Philosophical Society on such important adjuncts to their work, and especially on the substitution of this handsome lecture theatre for one which had become too small for their needs and was never too commodious; to congratulate all the citizens of York on this most valuable aid to that kind of education, which, so far from ending with our school days, should be continued to the evening hours of life; and to wish the Philosophical Society a long and prosperous career.



THE CHARM OF ST. MARY'S ABBEY  
AND THE  
ARCHITECTURAL MUSEUM, YORK,

BY

E. RIDSDALE TATE.

(LICENTIATE R.I.B.A.)



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Before entering into the details of the two subjects chosen for your attention this afternoon, I may say either of them is, in my opinion, a sufficiently interesting and instructive subject to occupy a single lecture; but as the two are so closely interwoven and bound together, it would be a difficult matter to separate them, even if one had the desire to do so.

Mental reconstructions of St. Mary's Abbey have, from my entry into the Architectural profession, been one of two fascinating subjects, and many plans, elevations and sections have in consequence been drawn in the air. Not until the year 1902, when the excavations of the Choir of the Abbey were in progress, did an opportunity arise for the realization of my dream. My professional duties periodically called me from London to Carlisle, and on these occasions I contrived to break my journey at York to pay a visit to the Abbey. It was the sight of the beautiful fragments lying about that roused the dormant enthusiasm—then followed the burning of the midnight gas, and the Nave of St. Mary's Abbey appeared—on paper, of course—a resemblance of its former grandeur before that thief of monastic property (Henry VIII. I mean) robbed York of one of the noblest buildings in the realm. I venture to say that the Abbey Church of St. Mary, outside the walls of York, was unsurpassed by any of the monastic establishments in Great Britain. Events happened which ultimately brought me back to reside in my native city, and soon afterwards I became a member of this Society.



Just three years ago, Dr. Tempest Anderson gave me the honour of designing this new Lecture Theatre, and there were many who held grave misgivings as to the treatment the beautiful fragments of the vestibule of the Chapter House would receive. I cannot say if their misgivings have been realized or dispelled! but these fragments, together with hundreds—I believe over 2,000 more—are treasured in the ancient vestibule which is under this Hall, and now incorporated in the Architectural Museum; and I venture to say, they are better cared for now than ever they were before. Of this Museum and its charming treasures more will be said presently.

The completion of this Hall was so far advanced by the beginning of May last year, that the task of removing the sculptured fragments from the lower room of the Hospitium, where they lay huddled together, many superb pieces of sculpture were so crowded that it was impossible to see their detail.

The re-arrangement in their new home was begun and carried on under the guidance of Mr. Harvey Brook, who, I may say, has with loving care tended these fragments from the moment they were touched by the workmen till they rested safely in a more spacious abode. This work went on until August, when the re-formation of the footpaths leading to this Lecture Theatre became a necessity.

A great deal of levelling had to be done, banks had to be cut and holes to be filled up. Soil had to be found to accomplish this work, and as a great quantity of soil had accumulated amidst the foundations in the Choir of the Abbey—debris from the old rockeries and site of this Hall—it was decided to use this soil and rubbish for the formation of the new footpaths. Here again Mr. Brook generously gave his time in superintending the work. Our two trusted workmen, Joe and George, of whose ability and prowess I cannot speak too highly, commenced in a whole-hearted manner at these mounds of rubbish. Pick and shovel very shortly revealed moulded stonework. These workmen, fired with zeal, worked like Trojans, and cheered on by Mr. Brook who—I don't think I am revealing any secrets—has not only devoted months of daily attention to the gathering of the fragments of stonework together, but has carried on the excavations and reconstruction of the Choir pillars and foundations at his own cost.

The work is nearing completion, much has been revealed, yet one portion of the site of the Church remains unexcavated—that is the south aisle of the Choir. On the outer wall of the Church and

the site of the Sacristy have been erected the boundary wall and buildings in connection with the School for the Blind, a great portion of which is built of Abbey stones.

Unfortunately these are not the only walls in proximity to the Abbey which are built out of its ruins. The lower walls of this Museum have much to answer for in this respect ; and it is a grave question to ask whether the early 19th century builders or those of the great Abbey grabber were the greater offenders at this spot.

Before touching upon any historical events concerning the Abbey, I would like to make one point clear, so that no misconception or regret may follow should it be expected that some reference to other ruins and buildings in the grounds of the Society are to be included in this paper. Much as I would like to have included them, because they all have charm, and a great deal of interest is attached to them, but the time at our disposal this afternoon will not permit. The buildings to which I refer are St. Leonard's Hospital (the east end of the little chapel is a gem of Early English—13th century architecture), the Multangular Tower, forming one of the massive fortifications of York under the Roman occupation ; the " Hospitium," or guest house of the Monastery ; St. Mary's Gate, with the Abbot's Court House and Chapel of the B.V. adjoining ; the Boundary Wall of the Monastery along Marygate, the Prison, Record Tower, Princess Margaret's Gateway, and, lastly, the Abbot's House, afterwards converted into a palace for the Lord President of the North—a Council set up by Henry VIII. at the time of the Dissolution of the Monasteries, 1539—and later converted and added to, to form a palace for himself, where he stayed when on a short visit along with one of his queens, Catherine Howard—being altered and mangled again for other monarchs, until there is now little left of the original and sumptuous lodging belonging to the Abbot of St. Mary's. However charming these remains are, you will I am sure agree with me that the task imposed upon me in dealing with the charms of St. Mary's Abbey and the Society's Architectural Museum is not a light one, so that I must get on with my story.

The story of the founding of the Abbey is an interesting one. When reading it one is faced by two different accounts of its origin. They are both instructive, but to arrive at the actual facts is a somewhat complex problem. The first theory is that chronicled by Ingulf and Roger de Hoveden. Hoveden tells the story of these monks who in 1073 came with inspired zeal from Evesham in



Worcestershire, to the North. One found his way to Durham, another to Whitby, and the third—Elfwy stayed at York and found a monastery here dedicated to St. Mary. Ingulph also refers to it, and says that when he was made Abbot of Crowland in Lincolnshire, 1076, he found six monks there from the Monastery of St. Mary at York, and who had fled there for refuge. The same Anglo-Saxon Chronicler says that “in the year 1056 Siward, the brave Earl of Northumberland, died and was buried in the cloister of St. Mary’s Abbey which he had built.” Hoveden makes a similar statement, but he calls the place Galmanho, and his date for its foundation is 1055.

Both Dr. Burton and Tanner assert that St. Mary’s Abbey was built on a site never before occupied by monks, and give their reasons for the assertion. These writers favour the Whitby record which gives not the slightest hint that the place on which the Abbey was built had “ever before been possessed by any religious.” Therefore it will be as well for a few moments to refer to this Whitby account, which was written by the first Abbot of St. Mary’s and preserved. Briefly it runs thus:—

Reinfred, the first of the Evesham monks, fixed his cell at Whitby, and re-founded the monastery there. Shortly afterwards, he appointed Stephen, who had shown remarkable aptitude, ruler of the monastery, which became rapidly successful. But before very long the great benefactor of the monks, William de Percy, became their enemy. The monks had to flee from their home, and eventually found a brief resting-place at Lastingham. Here they fell a prey to robbers, and were discovered by their old foe, William de Percy, and once more put to flight. Abbot Stephen found a protector in the Earl of Richmond, son of Eudo Earl of Brittany, who in earlier days was a close companion of Stephen. Among the 166 manorial estates he had received from the Conqueror, was the Church of St. Olaf at York with land adjacent; these he generously gave to his friend, Abbot Stephen, to erect his new home. This is the account given by Abbot Stephen; and the late Chancellor Raine agrees with Burton and Tanner, and states that the word “minster” simply meant parish church. If we accept this theory, then the early chroniclers must have been guilty of a great fraud. But the statements of the chroniclers must not be summarily dismissed. Ingulf was a contemporary, and Hoveden lived shortly afterwards, and both expressly refer to a pre-Conquest monastery.

During the recent excavations of the Choir and around the great central Norman aspe, was discovered a mass of masonry jutting out eastward from the main wall and disconnected from it. Its position cannot be that of a buttress, and a glance at the plan will show that it is not on the axial line. May this be some fragment of an earlier edifice? as at the present time it appears inconceivable what purpose a building in such close proximity to the Norman sanctuary could fulfil. May not the old chroniclers be right after all, that a monastery was in existence before the advent of Stephen, who it is more than likely found it in ruins and re-founded it, giving the honour of dedication to St. Mary instead of St. Olaf?

Canon Raine, in his notes on the founding of St. Mary's Abbey, mentions that "the suburb in which the Minster of St. Olaf stood was called Galman, and to the rising ground which some portion of the Philosophical Society's Gardens cover, the name Galman How was given.

It was not long after the Abbey had been founded, when a number of cells or smaller monasteries were made dependent upon it—8 altogether are recorded; but I think the two principal ones were Wetheral Priory and St. Bees. Wetheral Priory is about four miles from Carlisle, N.E.R., where now only the 14th century gatehouse remains. St. Bees, on the western coast of Cumberland, is a massive Norman Church, with a fine western doorway, some of the arch enrichments closely resembling the fragments of our own Abbey.

From the disputed site of the first monastery we turn our attention to the important work begun and achieved by Abbot Stephen de Whitby, in the building of the Abbey. In 1088, King William Rufus, when moving northwards, stayed in the Northern Capital, and seeing the inadequacy of the premises then occupied by the Benedictines, and their inability to proceed with the work they had begun, added liberally to the endowment, and gave them a considerable area of land adjacent to that which they already occupied. In the following year, 1089, Rufus with his own hand laid the foundation stone of a new and large church, dedicating it to St. Mary; or perhaps it may have been a reversion to a former dedication; however, St. Olaf was dropped.

To give anything like a description of the Norman Abbey is impossible, but from the fragments remaining we know that it was



of great beauty and extent. The plan of the Church would consist of a long nave with massive columns, as we see at Selby, Kirkstall and Fountains; a short choir terminating in an apse, with three smaller apsidal chapels on each side of varying sizes, opening out of the aisled north and south transepts. Part of the foundations of three of these side apses and one-half of the sanctuary on the north side were unearthed in the excavations of 1901-2; the outlines of two on the south side are indicated on a plan made in 1828, and these were evidently filled in again, but when excavating near the outer entrance to the Architectural Museum, a fragment of one of the walls was discovered. Early in January of this year, Mr. Brook, with his great appreciation of the Abbey, on deciding to excavate the remaining portions of the three northern apses, it was found these areas had been previously dug over and filled in for some unaccountable reason, and the plan remained hidden. However, we can now see the exact form these apses took. And another interesting feature was brought to light: just beneath the sods lay the ancient concrete floor, with a fragment of cement bedding for the tiles; a few of the red tiles, measuring about 9in. square by 2in. thick, may be seen half embedded in the wall. So we have here the only portion of the Norman flooring of the Church, which is some 2ft. below that of the 13th century transept. And this feature is worth noting, the 13th century builders did not erect a continuous wall or platform for the pillars of the eastern aisle, but built them on the ends of the division walls of the Norman apses. Under the floor of the second apse the remains of five skeletons, probably of monks, were discovered. The floor has been repaired, and two ledger stones, previously unearthed and lying in the grounds, have been placed on the floor to mark these interments. When excavating for the south arcade of the Choir in October last, the fragment of the southern half of the apse of the sanctuary was discovered.

The effects of Royal and other patronage is evidenced in the remains of the beautiful pillars and arches of the vestibule leading from the cloister quadrangle to the Chapter House. The accompanying illustration gives some idea of the glorious past. (*Plate II.*)

The good Abbot Stephen was one, if not the most distinguished of the Abbots of St. Mary's. His energy and pious zeal being equalled only by Simon de Warwick, the great builder of the beautiful 13th century Church. They present a beautiful picture of monastic life under its best aspects—that of active labour—and

their names should ever be venerated. Abbot Stephen ruled 24 years, giving up his earthly tenure in 1112—800 years ago.

In the chronicles of a long list of Abbots succeeding Stephen de Whitby, there are two or three outstanding features, and the foremost commending itself to notice took place during the government of the 3rd Abbot, Godfrid or Geoffry, who only ruled two years.

The secession of thirteen monks with the assistance of Thurstan, Archbishop of York, 9th Oct., 1132, marked the foundation of the second Cistercian House in England—this was at Fountains—the first being at Whitby. The scene of the struggle between the Abbot and Archbishop was well portrayed during the York Pageant.

We pass on to the 6th Abbot, Robert de Harpham; nothing is recorded beyond his demise in 1189. A fragment of his gravestone is in the Museum.

If what is related of Robert O'Wood—the bold Robin Hood in ancient ballads—be allowed to possess any historical truth, the Abbots of St. Mary's must have had a very anxious time during that celebrated outlaw and freebooter's reign.

Then we come to the great builder, Simon de Warwick. He commenced to rule over the community July 25th, 1258. Fired no doubt by great zeal and admiration of the graceful lines and contour of mouldings of what we call the Early English style of architecture, so beautifully crafted in choir and transepts at Whitby and at Rievaulx, also in the chapel of the nine altars at Fountains, and transepts at York Minster, he began the rebuilding of the Abbey Church of St. Mary.

The importance of the Foundation rapidly increased under Royal patronage, grants of land, liberties and privileges were augmented in the same proportion. Many interesting items may be culled from the Royal Charters: take for instance one granted by Henry II. to Abbot Savarinus, in which is added certain liberties and customs, which were possessed only by the Minsters of York and Beverley. Ordering also that when men in the County of York should be summoned to serve in the King's army, a man should be found by the Abbot to carry the banner of St. Mary, in the same manner as other Churches sent their banners. Charters were granted by the successive Kings, Hen. III., Ed. I., Ed. II., Ed. III., Rich. II., Hen. IV., Hen. V., and lastly by Hen. VIII., who, by a large Charter, confirmed all the previous grants of liberties, lands and properties, but after his zealous enquiries into the



Churches' property and his own matrimonial embarrassments, decided to confiscate their properties, demolish the monasteries, and annex the plunder to his own coffers.

The religious fraternity followed the rule of St. Benedict and were habited in black; they used a psalter compiled expressly for their own devotion. The Archbishop had the right of an annual visitation for the purpose of correcting or reforming, by the assistance of heads of the monastery and a select number of his own principal Canons, any abuses that might be introduced.

The Abbot of St. Mary's was, however, little inferior to the Archbishop of York in the splendour of his equipage; he was entitled to wear a mitre, an honour shared only by the Abbot of Selby, as also were they entitled to a seat in the King's Parliament, which entitled them to the dignified appellation of "My lord Abbot." The retinue of my lord Abbot of St. Mary's, York, was indeed a sumptuous one whenever he travelled abroad; he possessed several splendid country houses, the principal ones being at Deighton and Overton, both near York; and had a spacious park always well stocked with game at Beningbrough. In addition to these he had a town house in London, near to St. Paul's Wharf, occupied by him when attending his Parliamentary duties.

It is not unnatural that animosity existed between the citizens and the monks, relative to their jurisdictions and privileges; acts of violence ensued, and by the annals of the Convent we are informed that in 1262, during the abbacy of Simon de Warwick, the citizens slew several men belonging to the monastery and burnt a number of houses beyond Bootham Bar. To effect a reconciliation, the Abbot had to pay £100 as a peace-offering to the enraged party. He was so alarmed at the state of affairs that he absented himself from the Convent for more than a year. It thus became apparent that a better protection was required than the earthen mound afforded the monastery, and appeal was made to the King to allow the Abbot to build a wall on each unprotected side of the Abbey. The request was granted, and hence arose the high walls we now see enclosing the Museum grounds. They were constructed as a complete fortification with towers at certain distances, the walls embattled, had a wooden gallery within, the corbels for which may yet be seen. The whole circumference of the fortified wall and other works of defence were completed in 1266. They are thus particularized—Bootham Bar to Record



Tower, 194 yds. ; Record or St. Mary's Tower to the West Tower abutting upon the River Ouse, 420 yds. ; from the West Tower to Water-house Tower on the South, 246 yds. ; from the Water-house Tower to Bootham Bar, 420 yds.

From the MS. Chronicle of St. Mary's Abbey, preserved in the Bodleian Library, Oxford, we learn that in 1270 the Norman Choir was in a dangerous state, and it was found necessary to remove the high altar from the sanctuary, most probably into the nave. The Nave, or perhaps only the dangerous portion of the apsidal sanctuary and side chapels, would be walled up, and the work of demolition would commence. The work was so far advanced, that on the 9th June, 1271, the foundation stone of the new Choir was laid by the great Abbot Simon de Warwick, who, seated in his official chair, superbly apparelled, and crozier in hand, surrounded by his monks and retinue, the mortar was laid for embedding the first stone at a depth of nine feet ; the position probably being in the centre of the East end. The new stone for the building was the gift of John de Vavasour, being brought from a quarry in Thevesdale on Bramham Moor. The stones from the demolished Norman Choir were also used in the building of the foundations of the new Choir, as may be seen in the fragments of the cushioned caps, mouldings with chevron and lozenge, wall diapering and string course. Who knows what may be embedded in the heart of these walls ? Only a few weeks ago, and quite by accident, a very fine fragment of a trifoliated head of window or door was discovered embedded face downward in the south wall ; an enriched label mould being broken away, but by a singular piece of luck fragments of the moulding were discovered a few days later, not far distant from the first portion. We are also told that the foundation was 24 to 26 feet deep.

The pit dug out in the N.E. corner showed the foundation at that point to be 9ft. deep ; and also an interesting feature showing the mason's mistake in setting out the line of the north wall, the angle bond stones showing the wall had to be pushed back about a foot, thus proving the east wall to have been built first. No doubt the early builders met with the same difficulties which were experienced during the excavations for the Lecture Theatre, the unevenness of the underlying bed of clay on which the foundations had to rest, and the presence of water ; and this may account for the enormous depth at which the foundations were laid, 24 to 26 feet ; and I am rather inclined to think that this depth would

be required at the west end of the Nave if the measurement was calculated from the floor level of Choir. I may here mention that a number of trial holes were made in various parts of the Abbey grounds, water being found at varying depths. We have it under here at 2ft. 6in. below the floor, but the judicious use of cement concrete prevents any ill effect that would be likely to arise. It appears that the platforms on which the columns stand were allowed to stand for a time, as it was not until 1273 that the first stone of these columns was laid—about 640 years ago.

Five years later, 1278, the progress of the new Choir had been so considerable, it was decided to proceed with the Central Tower, the Norman campanile at that time threatening to collapse. This work, I think, would only be carried to height of the Choir, and the transepts would no doubt be proceeded with at the same time.

The fragment of the North or gable wall of the North Transept reveals an interesting feature. In the core of the wall is part of the Norman pilaster-like buttress cased on both inner and outer sides with 13th century masonry. On the outside may be seen the projecting weathered base of a buttress, and on the inside are fragments of the moulded base of the arcade respond. After the transepts and lower stage of the tower, would follow the Nave—all in fairly rapid succession. Simultaneously additions to and rebuilding other portions of the monastery were proceeding—as for instance the frater and warming house, also the beautiful Chapter House ; followed closely by the rebuilding of the vestibule connecting the beautiful cloisters, then in progress of erection with the Chapter House.

The illustration on *Plate III.* is from one of a set of drawings in the possession of the Society. It conveys some idea of the beauty and extent of the monastery before dissolution. It is from one of the conjectural drawings by Sharp, made probably about 1836. As to the drawings themselves, they are masterpieces of delicate draughtmanship, and display a fairly accurate rendering of the original design. This may strike you as rather authoritative on my part, but my judgment is based solely on the result of careful investigation of existing remains, comparison with work of the same period, and discoveries made during the excavations, etc. These drawings are really beautiful, and I feel sure are worthy of a better position than where they are now hung.

It appears from Dodsworth's MSS. at Oxford, that the great Central Tower was surmounted by a tall spire of wood covered



with lead, and there is preserved also among Dodsworth's MSS. a record that at sunrise on St. James' day, 1375, during a great storm, the spire was struck by lightning and set on fire, the tower and bells being greatly damaged. There is, however, evidence to show that the monks speedily endeavoured to repair the loss.

Fortunately we have during the recent excavations made a few discoveries which help the elucidation of the design of this central ornament of the Abbey.

Simon de Warwick was succeeded by Benedict de Malton, who received the Royal assent to his election on August 7th, 1296. A great deal of building work no doubt was done during his abbacy, including many of the richly-carved bosses from the roofs of the frater, and the beautiful wall arcading of the cloisters.

The rebuilding of the spire would be taken in hand during the abbacy of William Marreys, who ruled 1359 to 1382.

In all there were 30 Abbots, William Thornton being the last. He was confirmed Abbot on March 2nd, 1530, and continued till the time of the Dissolution, 1539, when he surrendered the Abbey with its 50 monks, along with, as Speed tells us, a revenue of something like £2,085, into the hands of the King's Visitors on November 26th—373 years ago; and for this the Abbot received a pension of 400 marks per annum.

When the monks were dispersed, the church, as well as the noble apartments attached to it, became useless. Some of the greater monasteries were converted into Episcopal Churches, but York was and had been for ages an episcopal see, and the parish of St. Olave already being possessed of a church, there was therefore no sacred purpose to which the Abbey Church could be applied, and it was doomed to destruction. In the population of a large town there would not be wanting many, then, and as I am afraid now-a-days, who from mere love of mischief would be ready to aid those who were urged by religious feeling to overthrow what they regarded as strongholds of superstition, and those who might have been able to stem the tide of religious fury perhaps thought more of their own interests than restricting the onslaught.

But that which chiefly contributed to the almost total overthrow of the Church and monastery, especially the Choir and Chapter House, was the order issued by the Crown soon after the Dissolution to erect a palace for the King.

The Abbot's House, erected by William Sever, who ruled from 1485 to 1495, parts of which are remaining in the School for the



Blind, was converted into a residence for the Lords President of the North ; and the Royal residence for Henry VIII. was erected to the rear and over the demolished Chapter House, vestibule, scriptorium and library, the monks' dormitory and portion of the warming house, the front wall being in about the same position as front of the Museum, continuing across the south aisle of the nave of the Abbey Church, where, during the excavations made in 1827-8, eight of the large figures which adorn the pillars in the Architectural Museum were found, buried face downwards, some 8ft. below a mass of fragments of the tracery from the windows of south aisle of the Nave. When discovered, many of them were adorned with colour and gilded enrichments; very faint traces of this is yet noticeable. These figures of 13th century workmanship are worthy of attention; in some instances the drapery is very gracefully sculptured and enriched with delicate ornament. The series appear to represent the old and the new Law, the figures of Moses and St. John the Evangelist being easily recognisable. Two additional ones, undoubtedly of the same series, were rescued from the Church of St. Lawrence, where they rested on the churchyard wall. These are engraved in Drake's "Eboracum," and referred to as of Roman or Saxon work. It has been conjectured by Well-beloved and copied by subsequent writers, these figures adorned the Choir, probably supporting the vaulting shafts of the roof. On the back of the head of each figure is worked a circular shaft, and this probably gave the clue to that inference. It is not improbable, although from recent discoveries we can determine with absolute certainty, that the shafting was of a trefoil section and not a single round. However, as I mentioned previously, it is not improbable that these figures stood above the capitals of the Choir pillars, and divided the spandrels above the arcade.

The reputation of the York glass painters was evidently kept up at St. Mary's Abbey. A description of the subjects in 28 of the windows was copied by a monk of St. Albans in the 13th or 14th century, and preserved in the Heralds' College, London. They are described in Latin verse, and form an interesting series. Although many fragments of glass have recently been found, all trace of drawing has disappeared.

It seems to the lay mind however, incomprehensible, why the walls which, when cleared of the mounds of earth covering the site of the Scriptorium, Monks' Dormitory and adjoining passages, and part of the Warming House, should have been demolished for

the erection of this Museum. There was some very beautiful work relegated to the rockeries. On Sharp's Plan the cloister wall arcading is indicated, and is no doubt correct, because in the lower room of the Hospitium a portion of the stone seat and base of this arcade is set up, and before the removal of the carved stones to the Architectural Museum a few of the crocketed parts were laid near the stone seat; all the rest was presumably thought worthless. When we were clearing the stonework of rubbish, preparatory to laying the concrete floor of the lower hall, what appeared to be a panelled buttress adjoining the entrance to the vestibule attracted my attention, and, after carefully noting the mouldings, I searched the rockeries, where a large number of stones were seen, sketched and measured and fitted together on paper after the nature of a picture puzzle. Mr. Brook most kindly took up the work of gathering up the pieces, and superintended the reconstruction of this beautiful specimen of 14th century work.

It is interesting to compare this with York and Lincoln Minsters. We know that the Master Mason of Lincoln was induced to come to York during the building of the Nave; and by comparison it is evident he brought templates of his mouldings along with him. His influence seems to have found its way to the cloisters of the Abbey.

We must now pass on from Cloister to Vestibule, in which are stored a wonderful mass of carved and moulded stonework, presenting an epitome of the sculptor's art of four centuries. The examples have, as far as practicable, been placed in chronological order, and a descriptive card accompanies them.

A new catalogue will have to be compiled, as the existing one is in many instances incorrect in its description of the mediæval fragments; but, with a collection of some hundreds of fragments, it will be realized the task is not a light one. The collection has been gathered together with the very greatest care and devotion by Mr. Harvey Brook, and is without question the finest collection outside London, and it is to be hoped that both architectural students and others interested in the preservation of these fragments will take advantage and study the carving at first hand in preference to copying from books.

The central feature of this glorious collection is the fragment of St. William's Shrine, which formerly stood in the "Sanctum Sanctorum" behind the great Reredos and High Altar in the Minster. The Shrine was two tiers in height, and bearing some resemblance



to that of St. Werburg in Chester Cathedral. In length it appears to have consisted of three compartments, and one in depth. The arches of these compartments are exquisitely carved with most delicate crocketing representing the thorn and maple leaf with fruit. The front spandrels are filled with quaint figure subjects, such as a man holding a hawk in his hand, and another with bow and arrow. At each end, the corresponding spandrels contain representations of the four Evangelists very dedicately carved. A large fragment of a supporting mullion is erected in the centre; and when in the Hospitium was in two or three pieces. Here again the carving is most delicately executed, among the figures under the richly-crocketed canopies will be seen St. Cuthbert bearing the head of St. Oswald; also, St. Edmund holding a bunch of arrows (erroneously described as St. Peter holding the keys); and near by is the figure of a contortionist supporting one side of the canopy. These fragments were discovered in Precentor's Court in the year 1835, and were presented to the Museum by Mr. Swineard. In the official Handbook of the Museum they are described as portions of a "fine doorway of Decorated work" and "other fragments of the same series." The workmanship is that of the very best period of mediæval sculpture—the early part of the 14th century, about 1310. If the little that we see of the colour decoration is indicative of the whole, then what a glorious Shrine it must have been.

We must now proceed to the Reredos of the great High Altar of the Minster, another rich specimen of 15th century work in grey marble, wrought like fine lace, and marvellously preserved, every line as sharp to-day as when it left the mason's chisel. A large number of the fragments were brought here from the Hospitium, and the greater part of them were found and presented at the same time as St. William's Shrine in 1835. A further discovery of them was made when making alterations to the Rectory of St. Michael-le-Belfrey, in Precentor's Court, and presented to the Museum in 1883. Previously portions were discovered on the Mount, in Lawrence Street, and Clifford's Tower, and given to the Society; while others rested in the front wall of a house in Hungate, and another portion formed the head of a stable door in St. Andrew-gate, and two other pieces were in the possession of Mr. Milburn, the sculptor. Here, again, Mr. Brook has come to the rescue, and these fragments are now, through the generosity of their late owners, reposing as near to their original position as it is possible to place them.



The catalogue is again faulty. It describes this work as "originally forming a series of stalls, perhaps from St. Sepulchre's Chapel or other part of the Minster."

It would be impossible, in the limited time at my disposal this afternoon, to give a description of the building, decoration and destruction of this sumptuous Reredos.

Many other exhibits claim attention, as for instance, portions of the columns forming the entrance to the Chapter House of the Monastery, together with a complete arch and fragments of two others adorned with 12th century enrichments. There are exquisitely carved bosses from the vaulted roof of the abbey church; capitals with Norman, Transitional, Early English and Decorated sculpture; fragments of the wall arcading of the cloisters, large portions of which have been rescued from the rockeries and re-erected at the end of the new Museum Hall. (see *Plate III.*) Attached to the pillars supporting the new Lecture Theatre are the great sculptured stone figures found under the floor of the abbey church, previously alluded to. The complete jamb and sills of a choir clerestory window, and along with it is an iron "saddle bar"; several fragments of tracery work forming the open triforia above the choir arcade; moulded angles and traceried head of one of the four corner stair turrets of the great central tower, together with a number of moulded arch stones, vaulting ribs and shafting, collected during the recent excavations, are exhibited at the west end of the Hall. In the Show Case are preserved the smaller and valuable specimens, including carved "knots" of foliage from capitals, portions of statues from St. William's Shrine, hands of a young knight, together with portions of crocketing and pinnacle from his canopied tomb; painted floor tiles and plaster-work, stained glass, combs and rings, pottery and glass-ware. This valuable collection is the outcome of great care and watchfulness observed during the progress of the recent excavations. The value of the fragments cannot be over-estimated; many of the moulded stones have thrown new light on some of the architectural features of the abbey church which were otherwise merely conjectural.

Not only are evidences of the past glory of St. Mary's Abbey stored here, but we have portions of the Norman sculptured doorway and wall arcading from St. William's Chapel, which until 1809 stood at the end of the old Ouse Bridge (the site being occupied by a great drapery establishment). A view of this door-

way and arcading, as also the chapel and bridge, are carefully depicted in both Cave's and Halfpenny's "Views of York." It may not be known to every member of this Society that a valuable collection of original sketches of Old York by Cave is housed in this Museum, but for want of space cannot be exhibited.

Fifteenth century pillar and arch stones from St. Crux Church, demolished in 1886, are preserved as a memorial of an act of unpardonable vandalism ; again, there are a few reminders of another similar act, by the demolition of the beautiful 13th century gateway of the Priory of the Holy Trinity in Micklegate.

Before closing this account of the charms of the Philosophical Society's Architectural Museum, there is to be noted a reminder of what must have been a very beautiful Norman Church—dedicated to the mother of Constantine—St. Helen-on-the-Wall, which occupied a site in Aldwark. There are two or three capitals with enrichment unlike anything we know of in York or its vicinity ; they are worthy of examination, as indeed is the whole collection, forming as it assuredly does a veritable store-house for the architect, archæologist and sculptor.

The charm of St. Mary's Abbey lies mainly in the gracefulness of its lines—its elegance and proportion—not in elaborate carving or excess of dog-tooth enrichment, but in the beauty of its mouldings. Wherever carving is introduced it is subordinated to the general design, as for instance, in the nave wall arcade. You will find a capital with mouldings on it, or perhaps a group of such ; then you will see in the midst another carved with simple ivy leaves clustered under the moulding ; and so with the windows, there is endless variety of details, and yet every part is in perfect harmony.

Nowhere in England is there another spot so full of charm as York ; and where in York is there a more charming spot than the Gardens of the Philosophical Society, in which stand the beautiful fragments of that once powerful and noble monastery of St. Mary's.

Here we must leave the venerable pile in the evening of its glory.

## NOTES ON THE PLAN.

*The Norman Apses*, excavated 1901-2 and 1912-13.

*Fragment* of early building, outside the central Apsé, discovered in 1912.

*Norman angle buttress*, veneered with Early English masonry.

*Fragments of Norman Church*, built into foundation walls of Choir.

*Norman foundations* around Vestibule, some not on clay. (Transl.)  
*wall*, 3in. above clay; *side wall* of passage, 12in. above clay;  
*wall of Chapter House*, (Norman) on large blocks, rests on clay.

*Foundations of wall* of Henry VIII.'s Vaults are 18in. above the clay and of loose stuff.

*Foundations of Sacristy*, evidently visible in 1827, as they are indicated on Sharp's Plan, and on a plan in my possession made about the same time.

*Choir*, consisted of 9 bays, the two next the tower are narrower than others, being same width as aisles of transepts. The western half of the south arcade, excavated in the autumn of 1912; numerous fragments of bases, columns, arch stones, vaulting shafts, carving and glass-ware unearthed. A complete jamb of the westernmost clerestory window together with a large portion of tracery from the triforium were amongst the hidden treasures. The remains of a tomb, probably that of a young knight, consisting of a stone coffin, walls and flooring of grave, built in brickwork, fragments of the marble grave-slab with traces of chasing and studs for a "brass," also the clasped hands of an effigy in chain mail were discovered; these, together with small specimens of Roman and mediæval pottery and glass-ware, have been added to the collection in the Architectural Museum.

*Sacristy*, occupying similar position as that at Selby, which in many respects closely follows St. Mary's.

*North and South Transepts*, with eastern aisles. Steps found, 1827, in corner of S. Transept, by which the brethren gained access to the Church when called for meditation.



*Nave*, consisted of 8 bays.

*Chapter House*, only fragment remaining is north wall, utilized for end of Henry VIII.'s wine cellars. Original work by Abbot Stephen. Later on rebuilt in 13th century.

*Vestibule*, by Abbot Stephen; glorious detail, nearly all pulled down and rebuilt, probably by John de Gilling, who ruled from 1303 to 1313. Nothing could have excelled in beauty the pillars forming the western entrance. A large cylindrical shaft surrounded by a ring of smaller shafts.

*Outer wall of Cloister*, in front of entrance, was of Norman work. An open arcade, with small semi-circular arches resting on coupled shafts. Several caps and basses were found on the rockeries, and dug up in excavating for the Lecture Theatre—one in particular on which may still be seen the name *Ricardii* repeated several times. N. and E. walls excavated and rebuilt February, 1913.

*The Cloister walks* were covered with a pent roof. The outer superstructure was undoubtedly of timber, there being no indications of buttresses. The floor of the Cloister was about 3ft. 9in. below floor of Church.

*Near the Western Cloister* the school of the monastery was usually kept, and near this side fragments of painted tiles were found. On them the letters of the alphabet in 14th century characters were drawn, and read from right to left.

*In the Monks' Warming House*, a series of beautifully-carved bosses, once adorning the groined roof, were found buried. Also a Fine Fireplace in this apartment and now under the Museum. In fact, this is the only portion preserved on the area now occupied by the Museum. The foundation of the King's palace passed in front of this fireplace, under the portico of the Museum.

PRESENTED

30 JUN 1915





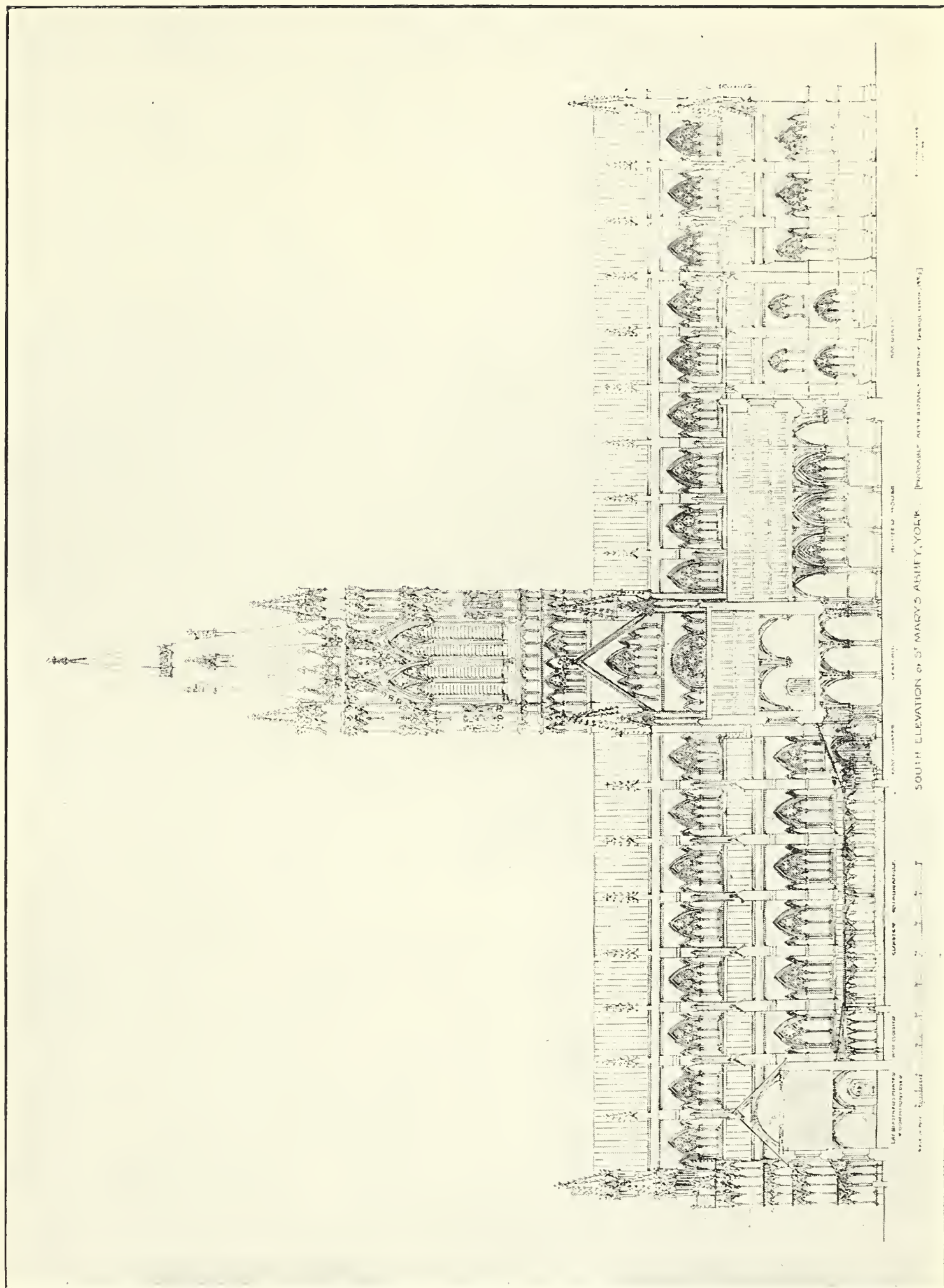


WEST FRONT, ST. MARY'S ABBEY.  
(RESTORED VIEW).





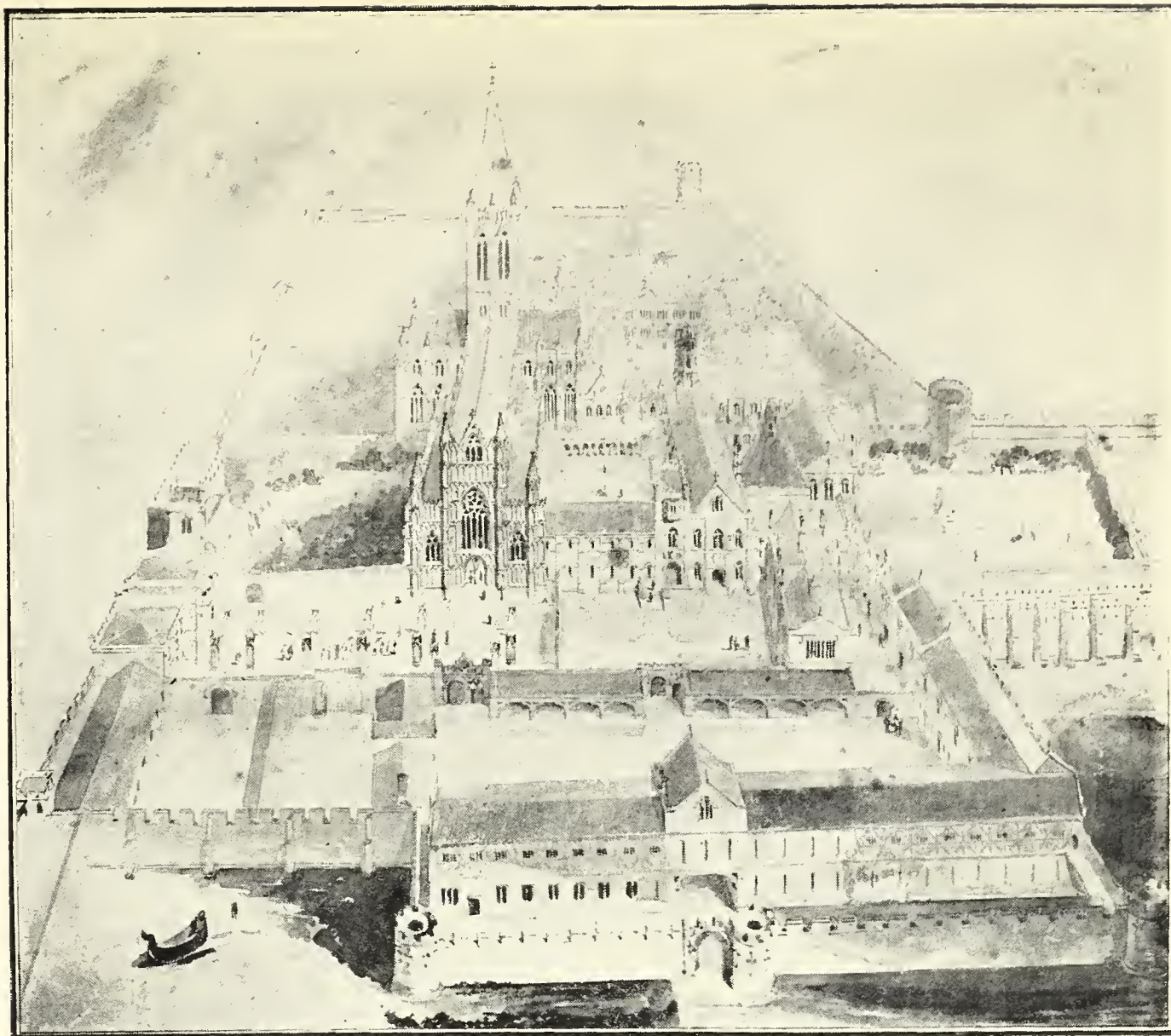




SOUTH ELEVATION OF THE ABBEY CHURCH OF ST. MARY, YORK. (By E. RIDSDALE TATE).







RESTORED VIEW OF ST. MARY'S ABBEY.  
(BY SHARP).

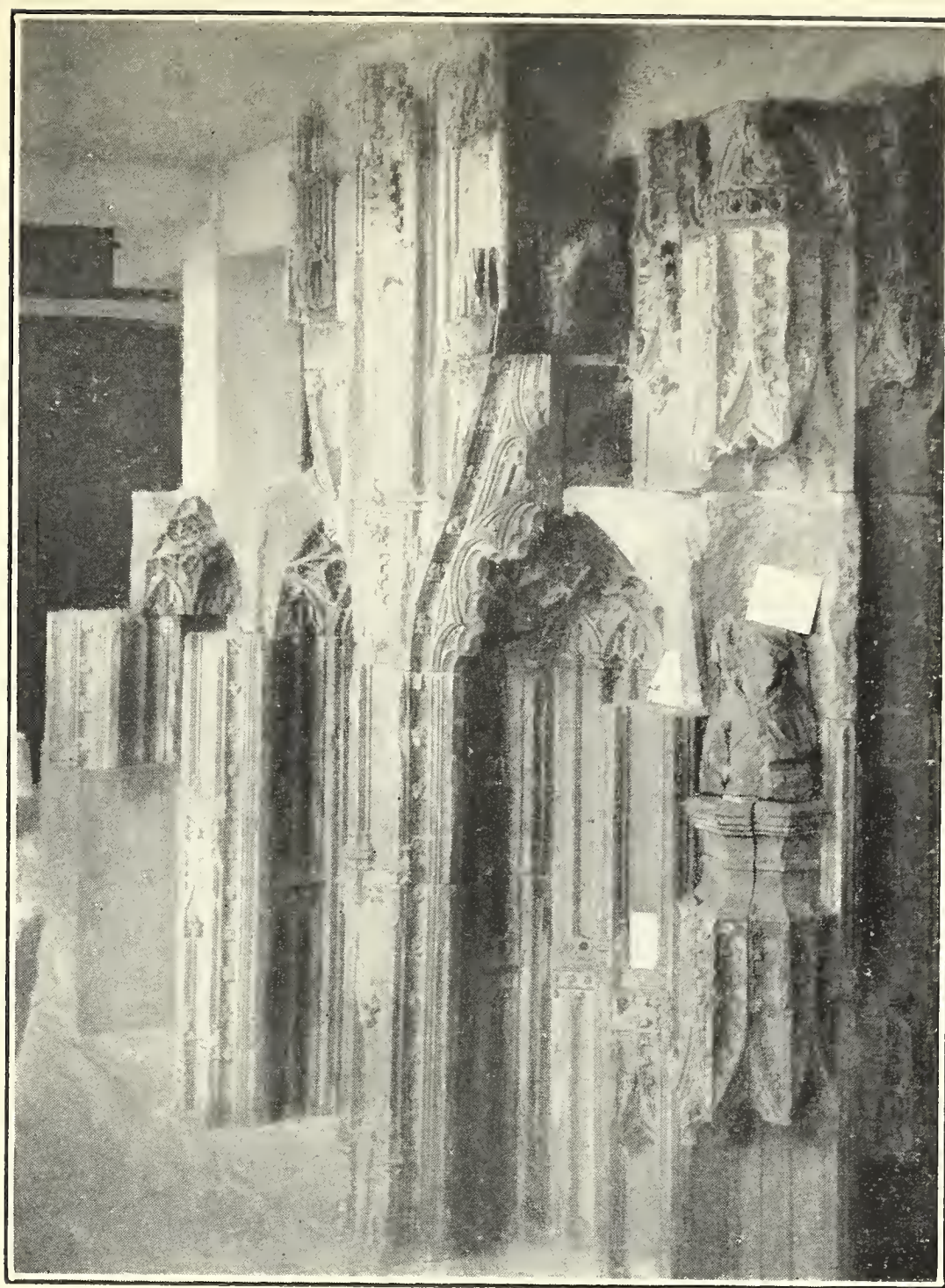


PIERS—ENTRANCE TO VESTIBULE.









FRAGMENTS OF THE REREDOS OF THE HIGH ALTAR, YORK MINSTER.



FRAGMENTS OF ST. WILLIAM'S SHRINE FROM YORK MINSTER.









EXCAVATION OF THE CHOIR—ST. MARY'S ABBEY.  
(OCT. 1912).



AFTER THE EXCAVATION—SOUTH ARCADE PILLARS REBUILT.  
(FEB. 1913).

























